

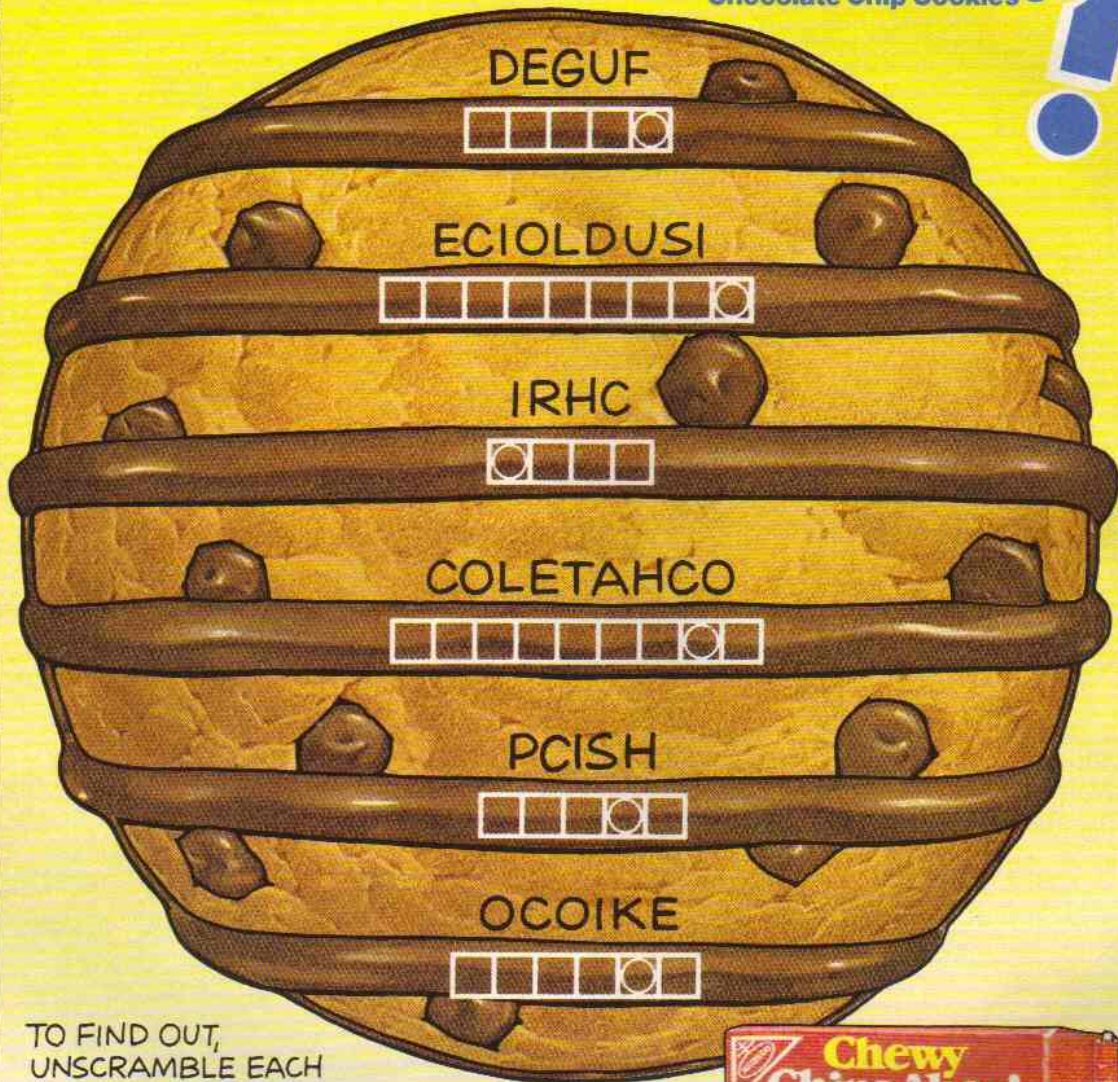
3·2·1·Contact

AMAZING FEATS OF CLAY!



WHAT HAPPENS EVERY TIME YOU BITE INTO A **Striped Chips Ahoy!**®

Chocolate Chip Cookies



TO FIND OUT,
UNSCRAMBLE EACH
SET OF LETTERS TO FORM
A WORD THAT DESCRIBES
STRIPED CHIPS AHOY!
WRITE EACH WORD IN
THE BOXES. NOW ARRANGE
THE CIRCLED LETTERS
TO COMPLETE THE
LINE "BETCHA
BITE A _____."

BETCHA
BITE A



ANS: FUDGE, DELICIOUS, RICH, CHOCOLATE, CHIPS, COOKIE.

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Cover: Illustration of clay logo and type by
David Williams Flood.
Photographed by Chuck Carlton.
Creatures © Will Vinton Productions, Inc.



PHOTO PATRICK HARBONIS/GMA

Human Joystick

Eric Allard raises his hand. Robot Number Five raises his. Mr. Allard makes a fist. So does Number Five.

Why is this robot copying Eric Allard's every move? Because Mr. Allard is wearing his "telemetry suit." The suit, which Mr. Allard designed, works like a whole lot of joy sticks. Each joy stick in the suit controls one of the robot's joints. So whenever Mr. Allard moves, he sends lots of remote-control messages to the robot to move the same way. The telemetry suit turns Mr. Allard into a human joystick!

With the help of Mr. Allard, Number Five plays a leading role in this summer's movie sequel, *Short Circuit II*. Not only that, robots like Number Five may soon be starring in real life as well. Scientists have already developed telemetry suits to guide robots through dangerous missions, such as cleaning up nuclear reactors after an accident.

Instant Cool

It's a hot day on a sunny beach. You've got a can of soda pop, but it's warm—yuk!—and there's no ice to be found. Is there no way to cool this drink down fast?

Not right now. But there will be soon, if soda-makers start to pack their pop in a new kind of can. It can cool a drink in no time flat. It doesn't even need ice. All you have to do is pop the top.

The can looks like a regular soda can and costs only a few cents more. But it comes with a built-in supply of liquid carbon

dioxide. When you pull the tab to open the can, the carbon dioxide escapes. It expands and turns to gas. The tiny container that held the carbon dioxide gets super-cold super-quickly, and that cools down the hot pop. Ahhhhhhhh!

Story suggested by Leslie Cunningham, Liberty, ME.

Pedal Pushers

Police in Seattle are trading in their four-wheeled police cars for two-wheeled bicycles.

Since last summer the four-member Adam Squad has been pedaling around the hilly city in Washington state. They discovered that when there is a lot of traffic, bike riders can get around the city faster than cars.

The bike-riding officers are catching criminals by surprise. "The other day we got a report of a car break in," explains Maurine Stich, a member of the Adam Squad. "We rode up to the parking lot and the prowler looked up at us on our bikes and went right back to what he was doing. It just didn't register with him that we were cops."

The bike squad patrols only in daylight and only in dry weather. Instead of wearing pants, they wear biking shorts which keep them cooler as they pedal some 120 miles a day.

Plans are in the works for adding more officers on bikes in Seattle—and the idea is spreading. Hawaii and Oregon are thinking of starting similar bike squads.

ILLUSTRATION BY RON LIPKINS



Crying Wolf

Fred Harrington, a scientist, likes to spend his time in a Minnesota forest, howling like a wolf. He's not goofing off. And he's not crazy. He's studying how wolves communicate.

One of his experiments went this way: Scientists trapped wild wolves, put radio collars on them, and set the wolves free. Tracking the wolves by radio, Mr. Harrington began howling whenever a wolf was about 200 yards away.

The wolf usually howled back but stayed away. According to Mr. Harrington, that was the wolf's way of saying, "Here I am. Keep your distance so we don't have a fight!"

But sometimes the wolf began to come nearer, howling in a lower voice. Why? Mr. Harrington thinks that the wolves were trying to scare him off. Howling in a low voice made the wolf sound bigger than it really was.



PHOTO: MIRIAM ALSTERN/ANIMALS

ILLUSTRATION BY MARTI SCHOET



Looking for Lost Cities

Searching for buried ruins is no easy task. And when you're searching in the jungles of Central America, it's even harder. The jungle is too thick to drive through. And camping is dangerous because of snakes!

That's why NASA, the U.S. space agency, has gotten into the act. NASA is using its satellites to get a clear snake-free picture of the jungle below. NASA satellite photos have already helped archeologists dig up ancient houses! The houses are a thousand years old. They were a part of the great cities built by the Mayan Indians.

How can satellites find buried ruins? Orbiting miles above the Earth, the satellite's instruments can locate objects buried five to six feet deep. The objects show up as dark spots on the satellite's special photos. Then scientists find the spot on the map, go to the site, and start digging!

Suggested by Brian Johnson, Bloomington, MN.

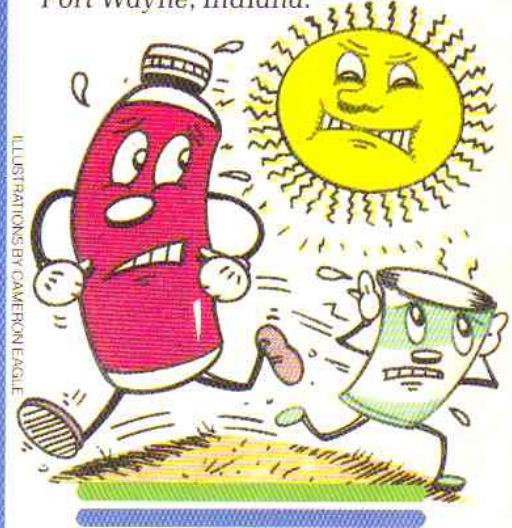
Litter Away

Jim Guillet stared sadly at all the plastic litter lying on a Caribbean beach. Wouldn't it be great, he wondered, if litter melted away in the sun?

Thanks to Mr. Guillet, now there's a kind of plastic that does. Ecolite, Mr. Guillet's invention, is a plastic container that lasts as long as other kinds of plastic, when it's kept indoors. But when it's left outside, in the bright sun, it disappears!

How does it work? The sun gives off ultraviolet rays. Regular light bulbs don't. After a few weeks outside in ultraviolet light, Ecolite breaks down into carbon dioxide and water.

Story suggested by Jarrett Terrill, Fort Wayne, Indiana.



ILLUSTRATIONS BY CAMERON EAGLE

So What's New?

You tell us and you'll get a nifty CONTACT T-shirt—if we print your story. Send us any science stories from the news that you think our readers would like to know about. (Be sure to tell us where you heard the story.) Send to: **TNT/3-2-1 CONTACT**

**1 Lincoln Plaza
New York, NY 10023**

Any Questions?

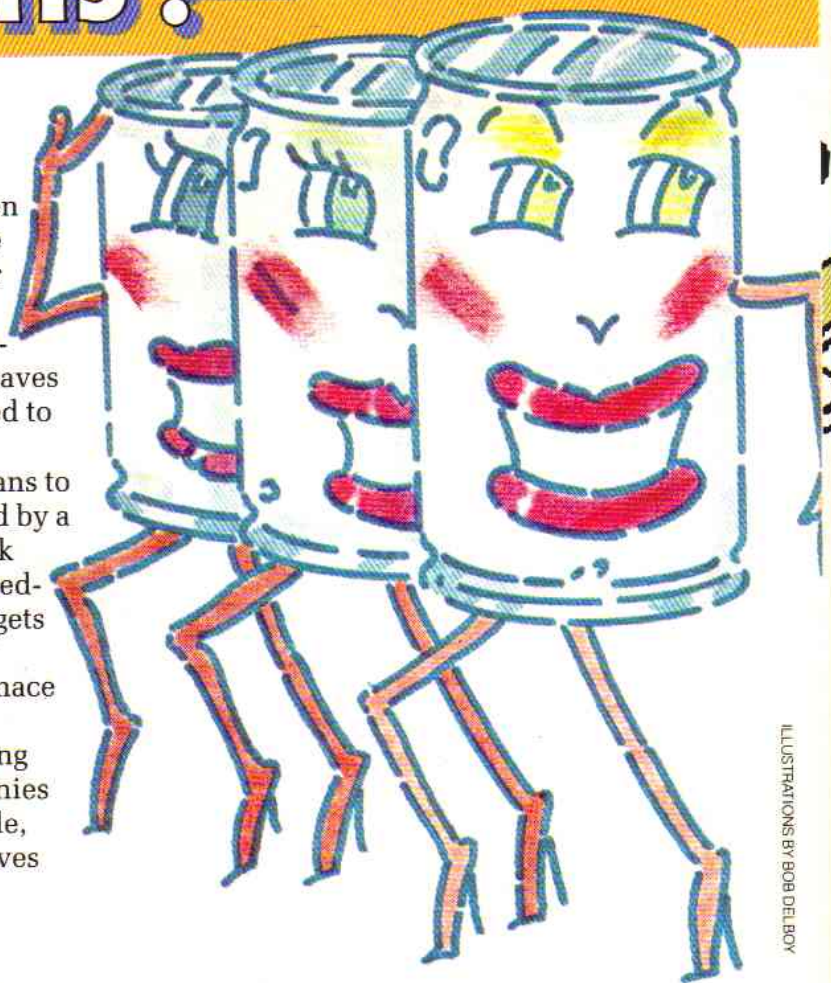
by Michele Lyons

How are cans recycled? When you finish a soda pop, don't throw away the can! Take it to your local recycling center or food store. You will earn a little money and the can will be recycled. Recycling lets companies turn old cans into new ones. And it saves on energy and material that would be needed to make brand new aluminum cans.

Each day, trucks deliver loads of empty cans to recycling plants. Here, the cans are flattened by a machine and dumped into a truck. The truck takes the cans to a center where they are shredded into popcorn-size pieces. This process gets rid of any leftover dust or liquid.

Next, the shredded cans are fed into a furnace that gets as hot as 1250°F (731°C). The heat softens the metal so it can be formed into long sheets. Later these sheets are sold to companies that make soft-drink cans. The cans are made, refilled with soda, and put back on the shelves in your store!

Question sent in by Mary Kvindlog, Waldo, WI.



ILLUSTRATIONS BY BOB DEL BOY



Do animals have dreams?

Nobody knows the answer to this question for sure. After all, animals can't tell us their thoughts. But many scientists think that animals do dream. They base their theory on studies that compare sleeping people to sleeping animals.

When people dream, the nerves in the brain give off electricity in certain patterns. These patterns are called *brain waves*. They can be measured with a special machine while the person sleeps. Scientists also used this machine on cats. And they found the same brain waves in sleeping cats that people have when they dream. This means the cats may have been dreaming, too.

What do animals dream about? That's anybody's guess. They probably dream about the same things they think about when they are awake—food, other animals, and maybe even people!

Question sent in by Kate Steele, Alice, TX.

Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

Any Questions?
3-2-1 CONTACT
P.O. Box 40
Vernon, NJ 07462

How does poison ivy make you itch?

That patch of reddish-brown leaves you touched looked harmless. But it was poison ivy. Now, you're itching and scratching like crazy!

Poison ivy leaves have an oil on them. When you brush against the leaves the oil gets on your skin. If you don't wash it off right away, the oil sinks into your skin. This causes an allergic reaction. Your skin begins to release a substance called histamine (HISS-ta-mein). Your body uses this substance to fight the poison. But the histamine also makes your skin red, swollen, and itchy.

Don't worry though. Your body is making other chemicals besides the histamine to fight the poison. Keeping the rash dry and putting on calamine lotion can give your body a little help in ditching the itching.

Question sent in by Elsie Gonzalez, Brooklyn, NY.



Why do people have bad breath in the morning?

If you leave food in the warm sun for hours, it will start to smell. The same thing can happen in your mouth overnight! Bacteria grow in warm, wet, dark places—like your mouth. The only other thing it needs to grow is food. If you have any pieces of food stuck between your teeth when you go to sleep, bacteria will break them down. This causes decay and a bad smell.

Of course, people can also get bad breath during the day. But while you're awake, your mouth is very active. You swallow more often and gulp away most of the bacteria. Your tongue helps move bacteria out of the way, too.

The best way to fight "morning breath" is to brush your teeth well before you go to bed. That way, you'll get rid of as many food particles as you can. Then brush your teeth again in the morning for an extra-fresh-tasting mouth!

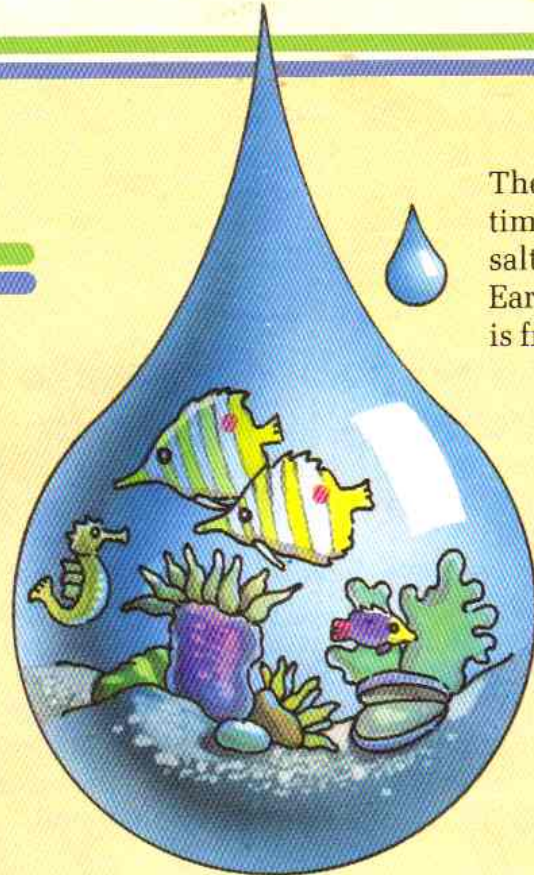
Question sent in by Mark Kaefer, Basking Ridge, NJ.



Factoids

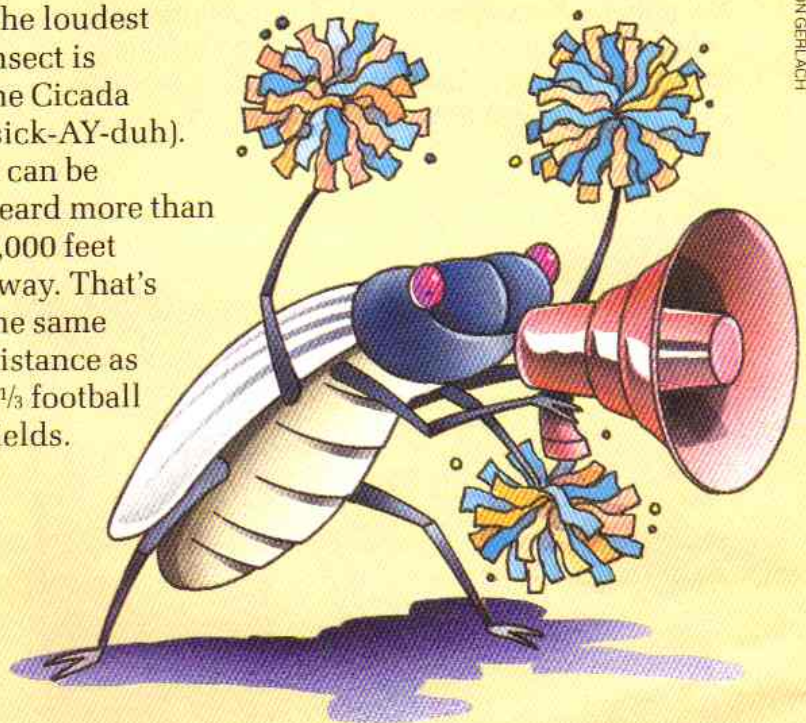


The average person can speak clearly at a rate of up to 300 words per minute.



There is $38\frac{1}{2}$ times as much salt water on Earth as there is freshwater.

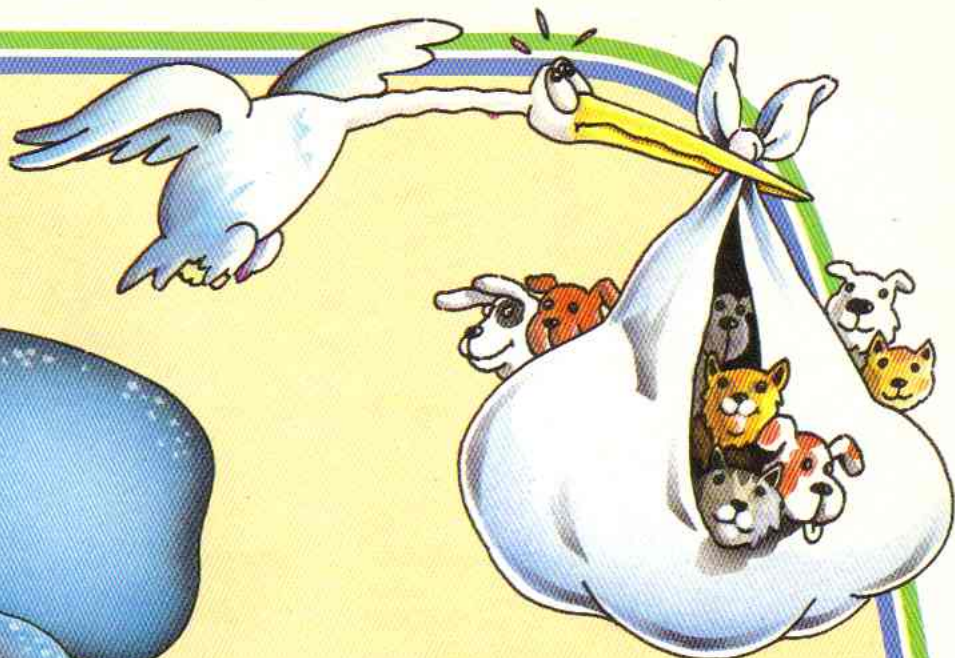
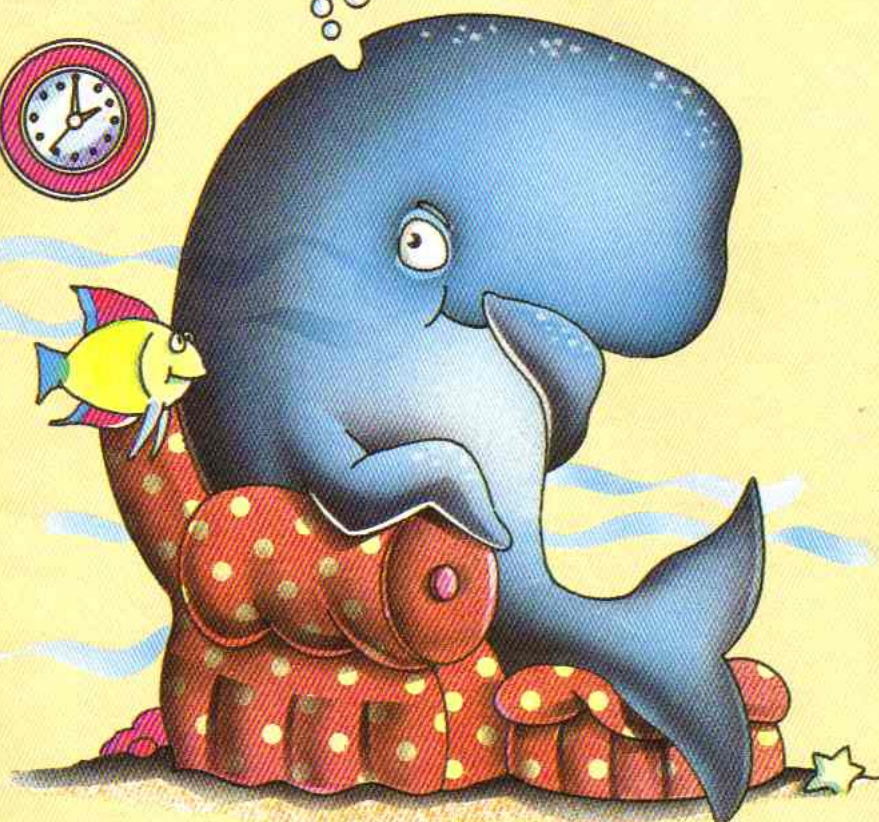
The loudest insect is the Cicada (sick-AY-duh). It can be heard more than 1,000 feet away. That's the same distance as $3\frac{1}{3}$ football fields.



ILLUSTRATIONS © CAMERON GERLACH

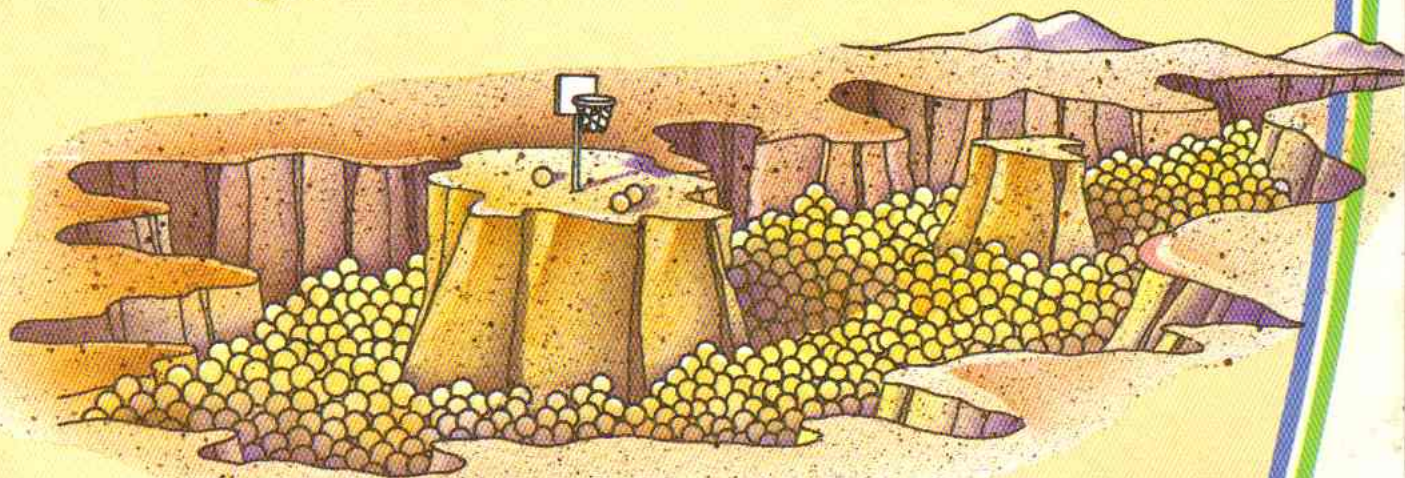
BOOKS

Whales can hold
their breath
for more than
two hours.



Each hour, about
2,500 puppies and kittens
are born in the U.S.

The Grand Canyon
could hold more than
67 trillion basketballs.

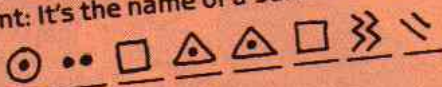


PER

“Bookkeeper” is the
only word in the
English language with
three sets of double
letters right after
one another.

SID
the
OWL'S
FAMOUS
BRAINTEASERS

Use the code below to find out the secret word.
(Hint: It's the name of a summer activity.)



Write the letters here

Code: $\bullet\bullet$ = W, \gg = N, \square = I, \odot = S, \triangle = M, \backslash = G

Make Dull Places FUN PLACES - with SUNKIST® FUN FRUITS® REAL FRUIT SNACKS

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brainteasers, jokes or dinosaur facts?
Send them to Sid and Sam, along with
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Sunkist Fun Fruits/Sid & Sam
P.O. Box 2041
Grand Rapids, MN 55745

Anyone who sends in word games, etc.,
consents to their use and the use of
his or her name in future issues of the
magazine without further compensation.

CRAZY WORDS

The names of some birds and animals are hidden in this word hunt. How many can you find? Words go across, up and down.

Q	F	R	O	G	X
G	O	A	T	U	T
O	X	M	T	L	I
O	Z	F	E	L	G
S	H	O	R	S	E
E	A	G	L	E	R

Fun Places to Eat Sunkist® Fun Fruits® Fruit Snacks

- In the back yard, catching lightning bugs
- In a greenhouse, watching plants grow
- Waiting in line for a funny movie
- Right after playing kick ball in the park

LETTERMANIA

The letters in the tree are all mixed-up. Can you put them in the right order?

FACTOSAURUS

Everything that is known about dinosaurs has been discovered in the last 150 years. Dinosaurs lived 65 million years before human beings. So scientists only know about the dinosaurs from the fossils — or remains — they uncovered in the Earth's surface.

Scientists in the next century will certainly solve many more dinosaur mysteries.

Thanks to Cara Ciosek,
Petaluma, California

Smilin' Sam's Joke-O-Rama

What do frogs like to drink with their fun fruits?

Thanks to Jeff Ross,
Mt. Air, New Mexico

E	A	G	L	E	R
S	H	O	R	S	E
O	Z	F	E	L	G
O	X	M	T	L	I
G	O	A	T	U	T
Q	F	R	O	G	X

ANSWERS:

Sid the Owl's Famous Brainteasers: SWIMMING
Smilin' Sam's Joke-O-Rama: Croak-a-cola
Lettermania: SUNSHINE
Crazy Words:



AMAZIN' RAISINS

by Marc Derman

MAKING CLAY FIGURES COME TO LIFE

How do you get a raisin to sing and dance?

No, that's not the start of a joke. On film, there is a way to make raisins come to life. You may have seen the TV commercial in which a chorus line of raisins sings *I Heard It Through the Grapevine*. The raisins wave their hands, kick their feet, spin, mockwalk, and boogie down!

Of course, these raisins aren't the same kind you sprinkle on your cereal. The moving raisins are made out of clay. They were created by a man named Will Vinton. His company uses a process called "clay animation." That's the art of making clay seem to come to life on film. (Will Vinton Productions calls its way of doing this Claymation™ for short.)

To find out how Claymation works, CONTACT went to Portland, Oregon, to visit Will Vinton Productions. Here's what we found out:

1 First, animators—artists who do animation—plan out the whole commercial on paper. This paper plan is called a storyboard. It's a sketch of each scene and the words that will be used.



13 ...INE



14 YEAH I



15 HEARD IT THRU THE GRAPE

PHOTO: COPYRIGHT © WILL VINTON PRODUCTIONS, INC.

2

Next real live singers are used to make a film of the commercial. The singers' voices will be used in the final commercial. And their body motions will help guide the animators as they try to make the clay figures move in a lifelike way.



PHOTO: COPYRIGHT © WILL VINTON PRODUCTIONS, INC.



PHOTO: STEVE STECKLY

3

In Claymation, characters are made out of a kind of clay that never hardens. It's called plasticene (PLAST-uh-seen), and it comes in twelve different colors. The Will Vinton studio buys tons of plasticene at a time. But the animators can't always get the exact color they need. The solution? Melt different colors of plasticene together on a hot plate!

4

It's time to build the clay characters. First the animators glob plasticene onto metal skeletons. (The skeletons bend easily but keep the characters from drooping.) Then, using tools a sculptor might use, the animators give the figures lots of lifelike details. ➡

PHOTO: COPYRIGHT © WILL VINTON PRODUCTIONS, INC.





PHOTO: COPYRIGHT © WILL VINTON PRODUCTIONS, INC.

5 Now the clay figures are ready to sing and dance on a clay set! The animators film the figures with a special movie camera using stop-motion photography.

6 In stop motion, the animators shoot one frame of film, stop to move the characters a tiny bit, then shoot one more frame. When you watch Claymation, all these still pictures flash in front of your eyes so fast that they blur together. The characters seem to move smoothly and continuously—all by themselves.



PHOTO: STEVE STECKLY

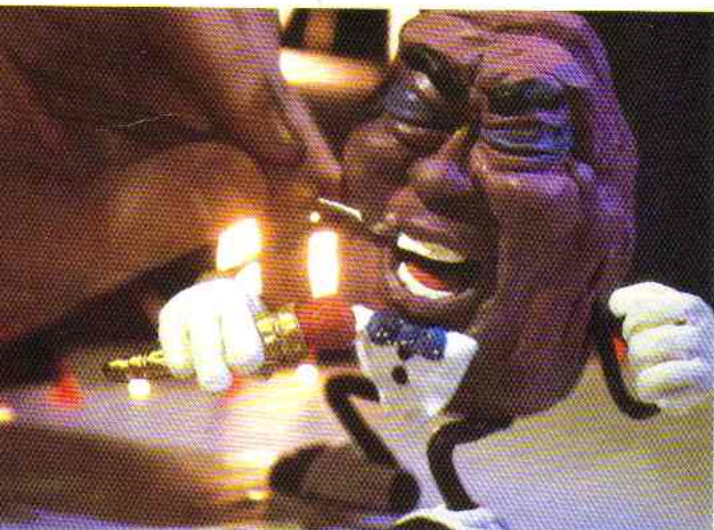


PHOTO: STEVE STECKLY

7 After each shot, the animators make tiny changes in the clay figures' expressions. Here an animator widens a raisin's smile.

8 As they film the clay figures, the animators keep studying the movie they made of the live singers. They want to be sure to make the clay figures move like humans.

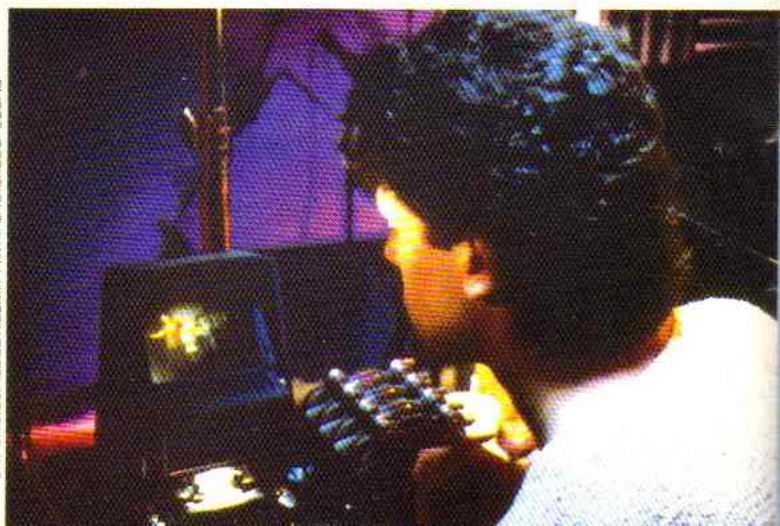


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PHOTO STEVE STECKLY



The animators also use themselves as models. Look closely at the right side of this photo.

See the mirror? The man is copying his own facial expression onto the clay.

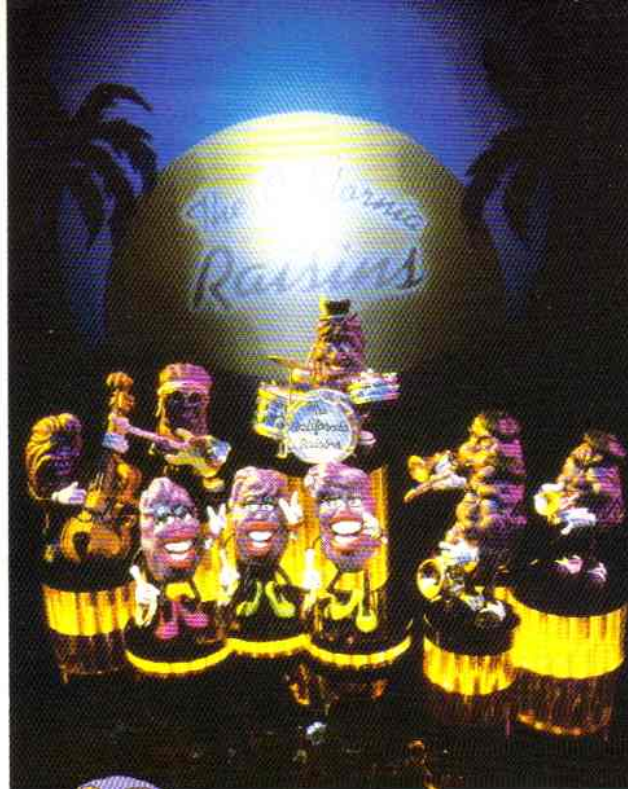


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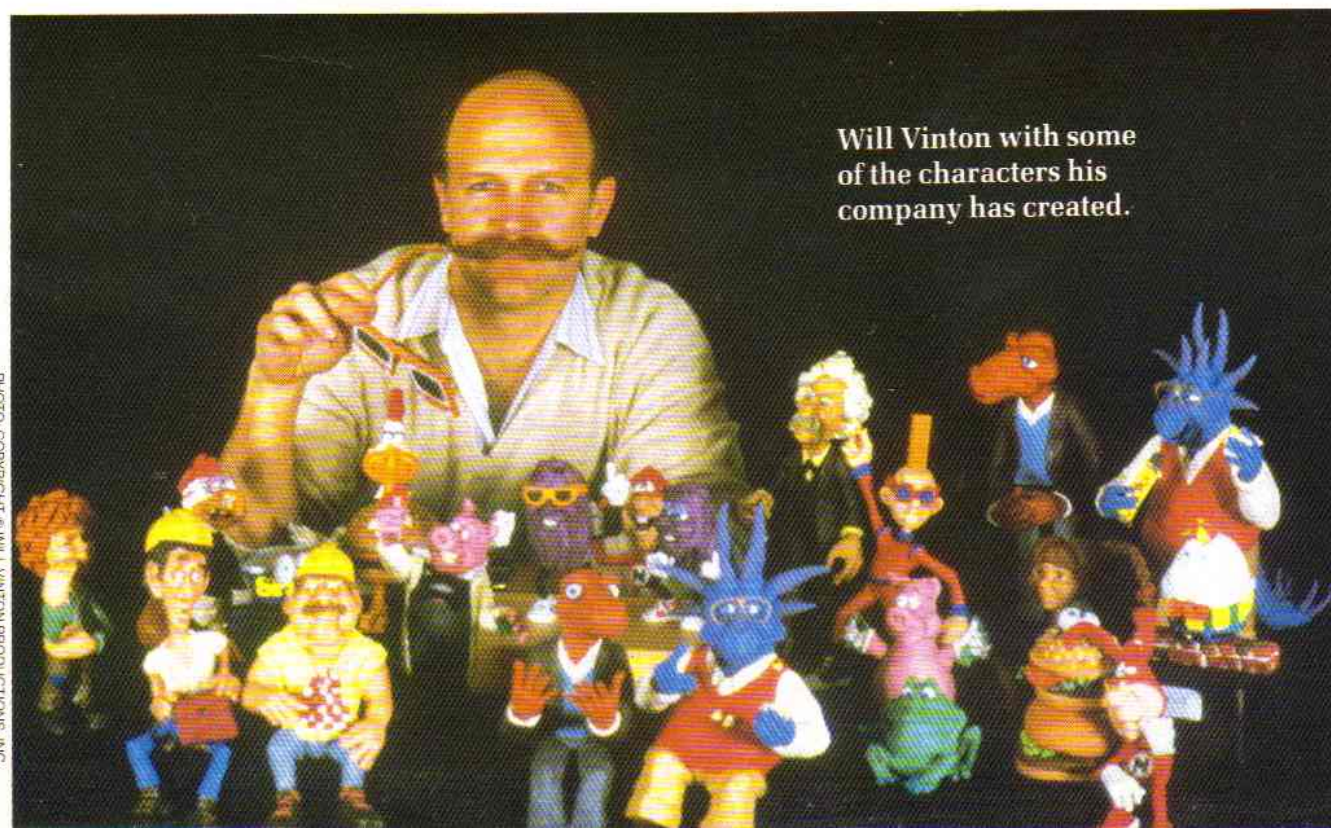
At long last, the clay raisins perform in the finished product.

How long does it take to make a 30-second commercial? About four months! That's because for every second of film, an animator has to stop and move the clay characters 24 times.

That's hard work. But after spending so much time with the clay figures, the animators start to feel close to them, as if they really were alive!

"The figures are very much like any other actor or performer," says Will Vinton. "Some are cuter than others, so you grow fonder of them."

According to Will Vinton, that's what keeps the animators going during the long claymation process. They're helping their own clay creations come to life. 



Will Vinton with some of the characters his company has created.

PHOTO COPYRIGHT © WILL VINTON PRODUCTIONS, INC.

BEARS! BEWARE!

WHEN GRIZZLY BEARS AND PEOPLE MEET, THERE'S TROUBLE

by Russell Miller



Yellowstone National Park—with its forests and meadows—is the perfect home for grizzly bears. Its hotels and campgrounds are perfect vacation homes for humans. And that's the problem: Humans and grizzlies are going head-to-head at Yellowstone, and no one can say if the bears will survive.

More than 100 years ago, the U.S. Congress decided that Yellowstone, the woodsy wonderland where Wyoming meets Idaho and Montana, would be the nation's first national park. It would be a place where wildlife would be protected for human visitors to enjoy.

Nowadays, more than two million humans enjoy Yellowstone's wildlife every year. All those visitors, and the roads and restaurants they need, spell trouble for some of the park's most popular animals—grizzly bears.

The Bear Facts

There are only about 1,000 grizzly bears left in the lower 48 states. (There are more in Alaska and Canada.) About 200 live in the Yellowstone Park area. Their numbers have been shrinking for 30 years. Recently,

scientists say, the bear population hasn't gone down. But that isn't good enough. For the bears to survive, the population needs to grow every year.

"No matter how you cut it, the bears are in bad shape," says Derek Craighead, a scientist in Montana. He says grizzlies need to be left alone so they can have more cubs and live longer lives. He believes the way to do that is to get people out of grizzly territory. "We've got to give the bears priority," he told CONTACT.

Michael Micone disagrees. He's a spokesman for business people in the Yellowstone area. He says, "We can't allow this whole area of Wyoming, Montana and Idaho to be run according to where a bear may want to go."

There are no fences to keep grizzlies in Yellowstone Park. They wander great distances in nearby forests. They cross campgrounds and hiking trails. They walk into towns, sniffing around garbage dumps.

That's when people get upset. Grizzlies, if scared or angry, can be dangerous. Once in a while, they injure people. They almost never kill people, though. More often, people kill grizzlies.

Grizzlies, Grasses, and Garbage

Grizzlies spend much of the winter sleeping in dens. In early spring, they come out to feast on

Below: There's a bear in there somewhere! Sometimes, summer visitors to Yellowstone National Park crowd out the grizzlies.



PHOTO: AL HARVEY/MASTERFILE

Above: Garbage dumps can make a grizzly bear's dinner a feast. Dumps which are located where people live can bring humans and bears into dangerous contact.

buffalo or elk that died during the winter. Later, the bears head toward rivers to fish for young trout. More often, they graze on fresh moist grasses, berries and pine nuts. Most live in the "back country" far from roads, campgrounds and most people.

But given a chance, grizzlies will eat the kind of food people eat, too. Fifty years ago, the bears ate freely at Yellowstone's garbage dumps. Park officials even put up bleachers by the dumps so visitors could enjoy the nightly bear party.

At the dumps, grizzlies learned they could find good food wherever they found people. Park officials worried that visitors would be hurt by grizzlies looking for food in campsites and near hotels. In the 1940's, they took down the bleachers and moved the dumps deep into the back country.

Back to Nature

In the late 1960's, officials decided to close the back-country dumps. They wanted to encourage bears to hunt for "natural" food. It wasn't natural, they said, for bears to eat people's leftovers. Gary Brown, the park ranger in charge of Yellowstone's grizzlies, remembers it this way: "We just ➡

PHOTO: JEFF HENRY

reached a point where we said 'Do we want a zoo...or do we want something natural?' "

Some scientists disagreed. They pointed out that Yellowstone, with its roads, hotels, and gas stations, wasn't "natural" anymore. They feared that bears would grow weak and have fewer cubs without dump food. And they worried that the bears would wander farther outside the park to find the kind of food they were used to finding in dumps. They would run into even more people.

Hungry, Hungry Bears

That's just what happened. Yellowstone's dumps closed, and grizzlies got hungry. They went to dumps in towns outside the park. They wandered into logging camps. Many were killed. Over the years, fewer were born.

More grizzlies came looking for food at human spots inside the park, too. Between 1969 and 1973, rangers killed 36 of them. Nine more were sent to zoos. Officials say those 45 bears were big troublemakers—grizzlies who were hooked on people's food.

Below: Grizzly bears can cause serious damage. This couple's trailer was damaged when a powerful bear tried to get inside.



PHOTO: JEFF HENRY

Above: Some groups have asked for better protection for Yellowstone's grizzlies. Here, a person dressed as a bear talks about the grizzly problem with a park ranger.

But many bears also left the back country to find bear food, not people food. Over the years, the park had built centers for human visitors in some of Yellowstone's best natural grizzly-bear feeding grounds.

The Trouble At Fishing Bridge

One trouble spot is deep inside the park—a place called Fishing Bridge. It's a pretty spot on Yellowstone Lake, a good place to fish—for grizzlies and for people. For people, there are also stores and campgrounds.

Between 1968 and 1983, almost half of the grizzlies who got in trouble in Yellowstone got in trouble at Fishing Bridge. Four years ago, officials at Yellowstone decided grizzlies needed Fishing Bridge more than visitors did. They decided to close up the stores and campgrounds at Fishing Bridge.

That made some people really mad. Visitors who had used Fishing Bridge for years were upset. Fishing Bridge business people worried about losing money. So, park officials backed

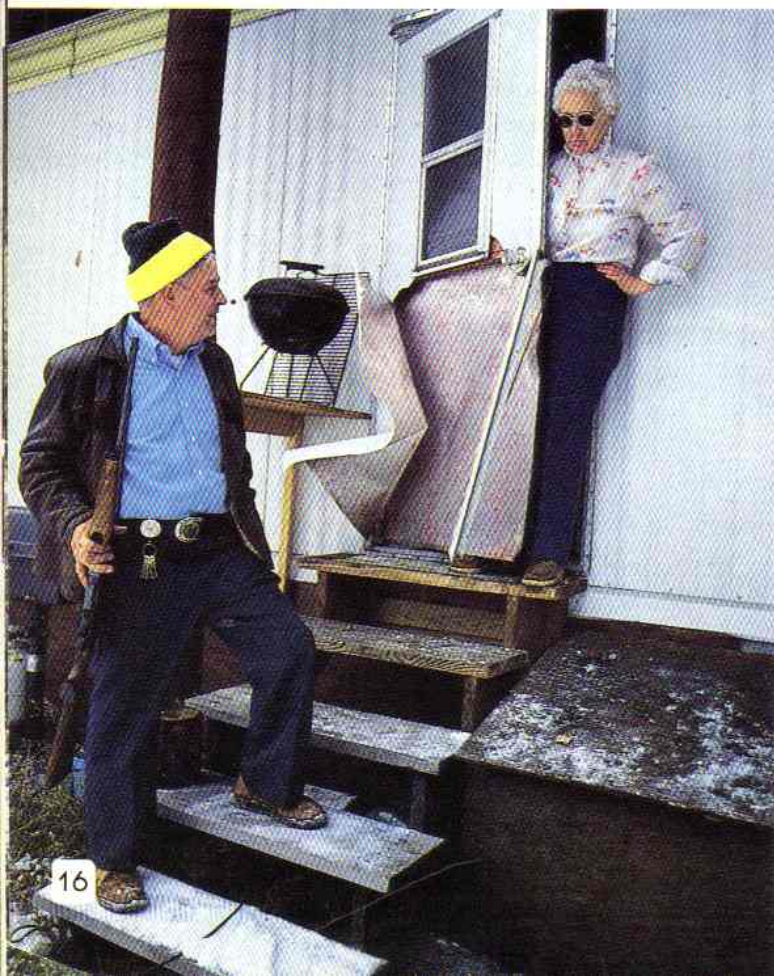
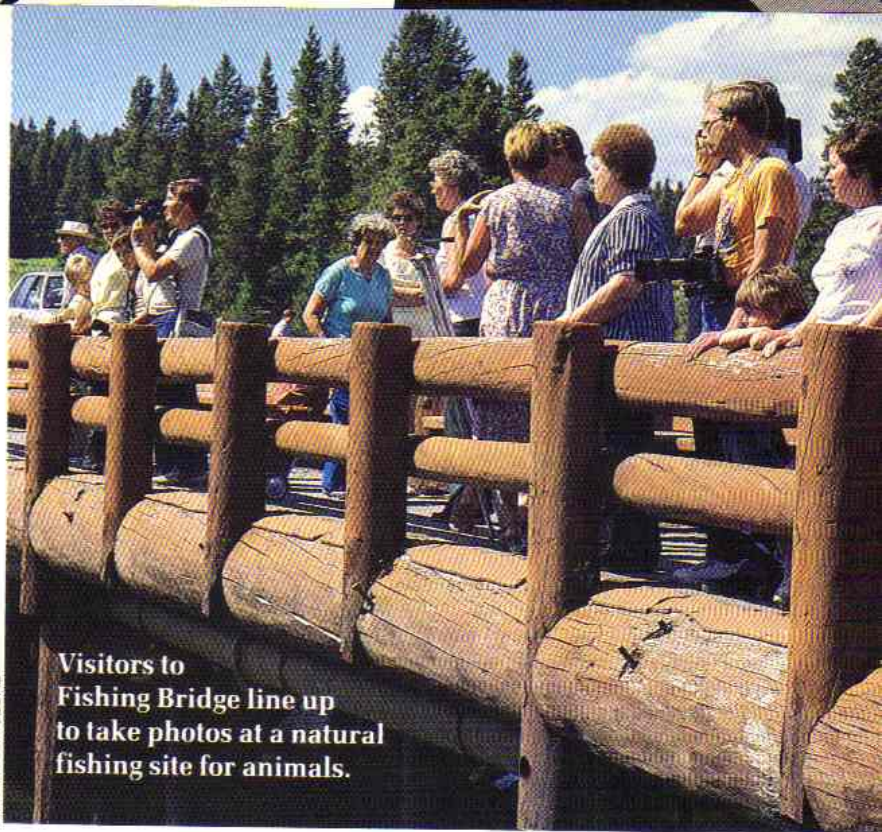


PHOTO: RON SHADEMOUNTAIN LIFE

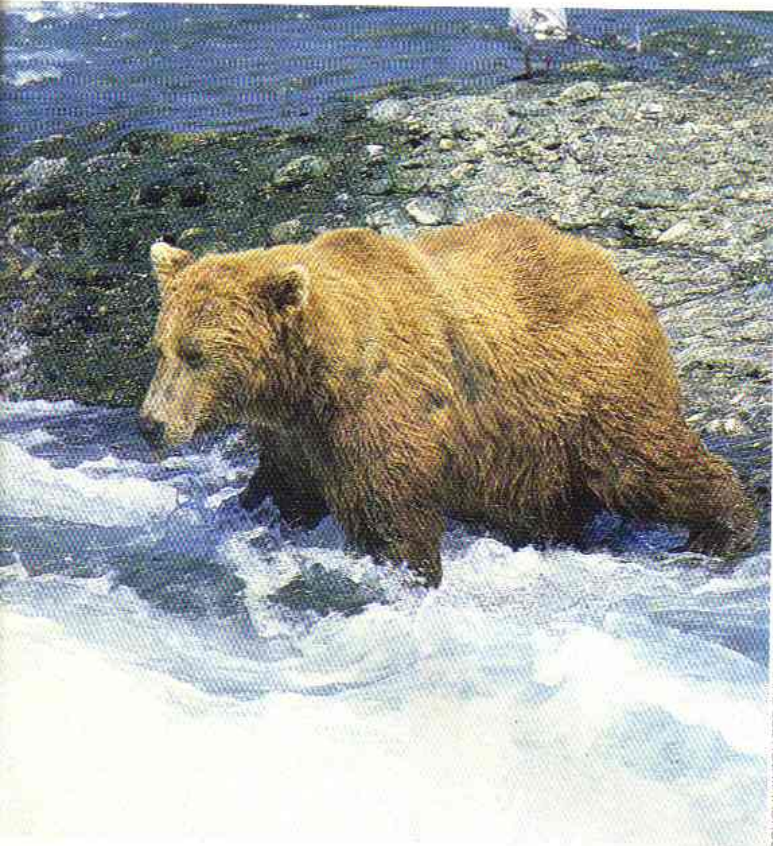


Above: A group called Earth First has been trying to protect bears from visitors to Yellowstone. Their sign says it all.



Visitors to Fishing Bridge line up to take photos at a natural fishing site for animals.

PHOTO: JEFF HENRY



Above: People and animals often compete for the same food. Here, a grizzly goes fishing for a meal.

PHOTO © LEONARD LEE RUE/ISTOCK

down. They decided to leave a campground at Fishing Bridge.

Then people concerned about the bears' future spoke up. They want all the businesses at Fishing Bridge closed. They say Yellowstone has plenty of property for people and not enough for grizzlies. The bear population is dangerously low, they say, so bears need special care.

Making Tough Choices

"It's a lot of little things," says Richard Knight, a scientist who studies grizzlies for the U.S. government. "Fishing Bridge is one little thing. A ski area planned for just west of the park is another little thing. These things add up to less room for the grizzly."

Louisa Willcox works for a wilderness protection group called the Greater Yellowstone Coalition. She says, "If we really want to protect the bears, and we want our kids and grandkids to go to Yellowstone and know the bears are there, then something is going to have to give."

The choices may be tough. Some people say "Give up whatever it takes to save the bears." Still others say, "Our jobs and our fun in the outdoors come first." The difference between grizzlies and humans is, people can think about a problem. And people, unlike grizzly bears, can choose. The grizzlies of Yellowstone will live or die with the choices people make. ☞

Short Shorts

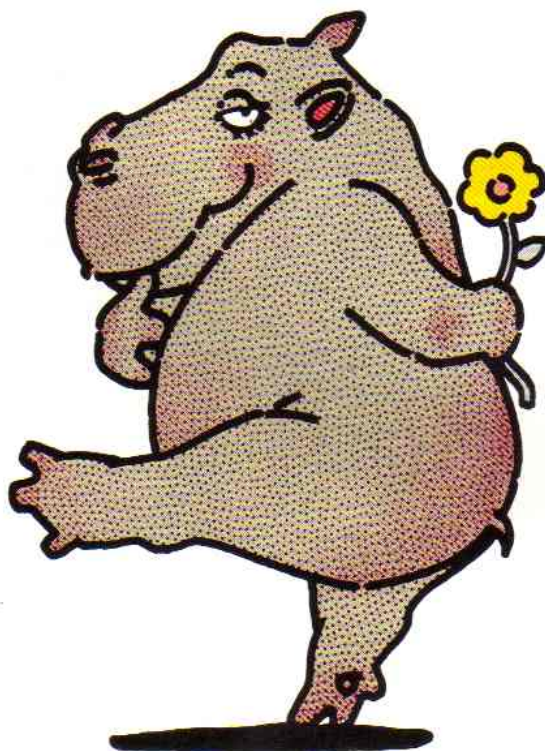
by Megan Stine and H. William Stine

If you ever saw a grizzly bear up close, you'd know how very big it was. On the other end of the size scale are some miniature animals. Here are eight of them that are found in the wild.



Hippo Hooray! As a rule, hippos weigh five tons and can cover 15 feet (4.5 m) just by standing in one place. However, there is an exception to this rule. It's the pygmy hippopotamus. At five feet (1.5 m) long and 500 pounds, pygmy hippos lead quiet lives in the streams, forests and swamps of Africa. These gentle animals don't like to push their weight around, so they have few enemies.

A Real Dilly Want to see a tiny tank? Check out the armadillo. It's covered with thick, armor-like skin. Unlike bigger armadillos, which can grow to be three and a half feet (1 m) long, the six-inch (15 cm) pygmy only has scaly skin on its back. When in danger, an armadillo rolls itself into a tight ball. Even jaguars, which like to snack on the little critter, can't pry one open.



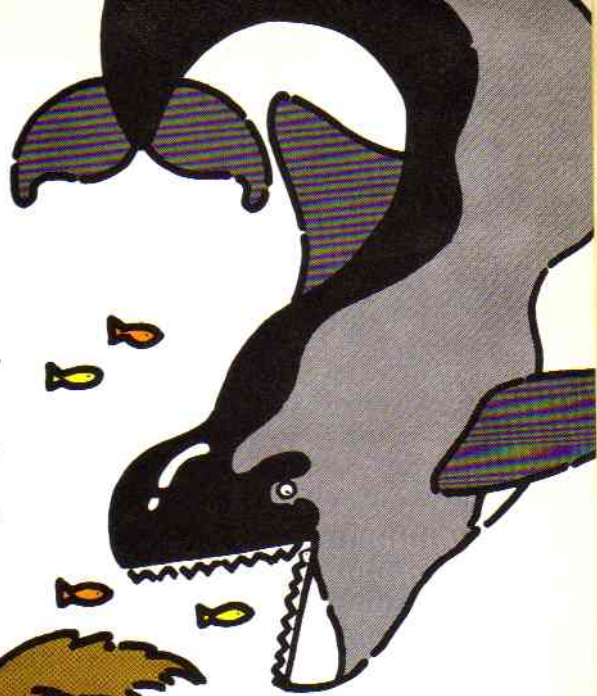
You Little Rat What's less than two inches (5 cm) long, looks sort of like a rat and can hop 10 feet (3 m) in a single bound? It's the pygmy jerboa (jer-BO-uh). This spoon-sized rodent lives in the deserts of Africa and Asia. All jerboas—including the six-inch (15 cm), regular-sized ones—sleep during the day. They often lie on their sides to stretch out their long hind legs.



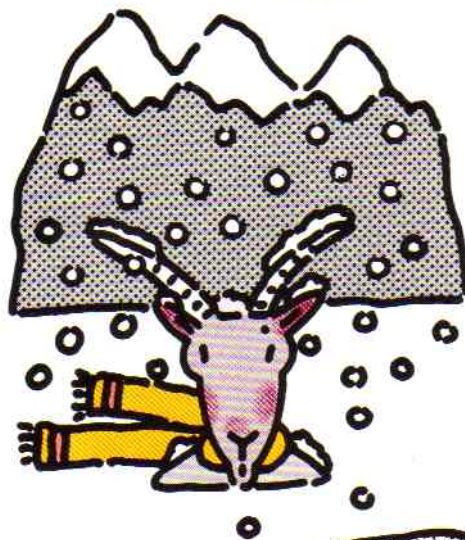
Short Shark If you think sharks only come in the JAWS-sized variety, you're in for a surprise. The spined dogfish doesn't look much like a shark. But it is the smallest shark in the world. When full-grown, it is just the size of a pencil—about six inches (15 cm) long. For such a small shark, it has plenty of teeth. Like most sharks, it has several rows of choppers.



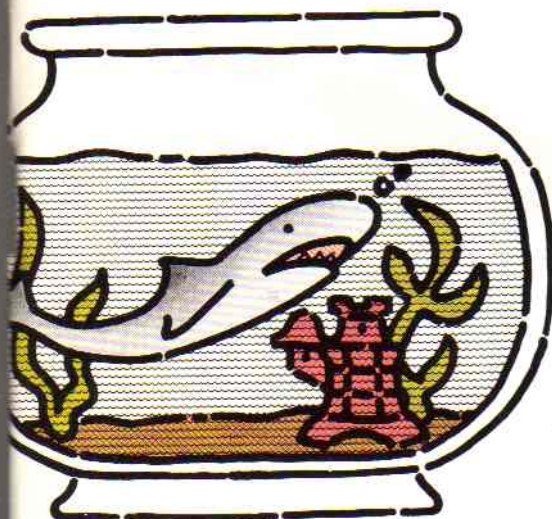
A Whale of a Tale The pygmy killer whale is about seven feet (2.1 m) long. That won't exactly fit in the back seat of a Toyota! But, compared to the 19-foot-long (5.8 m) killer whale, it's a midget. Only four pygmies have ever been caught. They were found in the Pacific and Atlantic Oceans. Since it's so hard to catch these sea mammals, not much is known about them.



Mini Rattlers If you're not crazy about snakes, you might like the pygmy rattlesnake. It's a small version of its full-sized relative. About a foot and a half (.4 m) long, it's one fourth the size of a big rattler. Like regular rattlesnakes, pygmies kill their prey with poison they shoot from their fangs. The small rattlers aren't as poisonous as big ones. But —ouch!—it still hurts.



Baa Baa Blue Sheep The blue sheep isn't really a sheep. It's something like a sheep and something like a goat. The two-foot-high (.6 m) pygmy blue sheep live in the mountains of Asia. Blue sheep are blue just once—the first winter after they're born. Then their coats turn gray. In the face of danger, they stand very still. They blend right in with the rocky scenery.

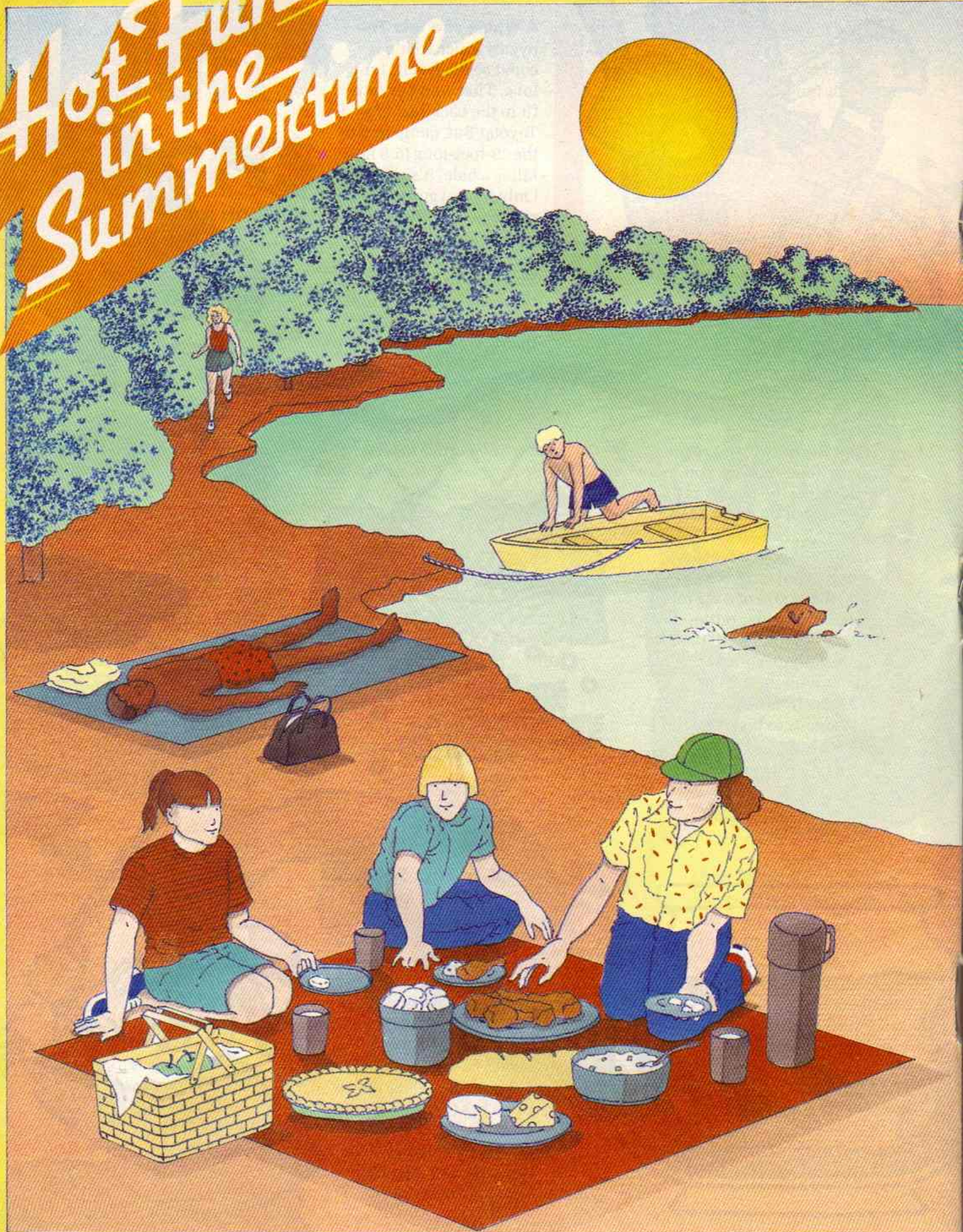


Small, Smaller, Smallest

There are three kinds of mini-antelope in Africa. The Suni is 15 inches (28 cm) high. Bate's dwarf antelope measures 12 inches (30 cm) high. And don't overlook the royal antelope, although it would be easy to do so. They are no higher than 10 inches (24 cm). All three are shy and fast. When frightened, a royal antelope may leap nine feet in a single jump.



Hot Fun in the Summertime





Sun and fun—that's what you get if you follow our summer safety tips!

1. BLOCK THAT SUN! Wear a sun-block cream whenever you will be in the sun. Don't stay in the bright sun more than 15 minutes the first day.

2. BEAT THE HEAT Drink lots of cool fluids when you play in the heat.

3. PLAY IT SAFE Swim with a buddy and stay in sight of the lifeguard.

4. DON'T BE SHOCKED Get out of the water if you hear thunder or see lightning. Never take shelter from a storm under a tree. Trees attract lightning. Go indoors or get in a car.

5. PICNIC COOLERS Don't let food spoil in the hot sun. Keep it cool.

ILLUSTRATION BY SHIRLEY KANEIDA

THE BLOODHOUND GANG

ILLUSTRATIONS BY BOB PEPPER

The Case of the Twisted Triangle

by Decky Cheston



"The Groveland Triangle? I don't believe it!" hooted Ricardo. He was lacing up his hiking boots.

"Well, you should believe it..." said Mary Pickering. She and her buddies Chelsea Baker and Gail McCloud—a trio of hikers—had come to the Bloodhound Gang with a very strange tale.

"You've heard of the Bermuda Triangle," Mary continued. "Well, this is just like it. Weird things happened to us in the Groveland Triangle!"

"Wait a minute..." warned Vikki. "First of all, there's a logical explanation for everything that happens in the so-called Bermuda Triangle. So let's not start a rumor about a patch of woods in our home town."

"But it happened!" insisted Chelsea.

According to the three girls, they had been hiking in Groveland Acres. After about an hour's walk, they came to a triangular clearing. All of a sudden, their compass made a wild swing. They couldn't get a steady read from it. Confused by the compass' swings, the girls became lost. They wandered for an hour before another group of hikers led them home.

"We all agreed it was that certain spot where the compass went haywire," Mary explained. "So we decided to go back and check it out."

This time, they brought a different compass and a two-way radio. They marked their trail with bits of ribbon tied to trees.

Strange Things Happened

When they reached that same spot in the woods, things got even stranger. Not only did their compass swing, but a low humming sound filled the air. When Mary tried to call for help on the radio, all she could get were loud squeaks and static.

All three girls swore they saw strange flickering lights.

"So!" said Ricardo. "What are we waiting for? I'm certainly curious. Let's get going."

"Sounds good to me," agreed Vikki.

"G-g-gee," stammered Skip, "doesn't someone have to stay behind and watch the office?"

As Mary, Chelsea, Gail, and the Bloodhound Gang made their way over to Groveland Acres, they ran into Mary's brother, Joel. Joel, dressed in blue shorts and a green T-shirt, was hanging out with his friend Brad.

"The Groveland Triangle is going to get you!" Joel teased.

"Ignore them," said Mary.

When they reached the edge of Groveland

Acres, Vikki looked around. It was a beautiful area, spoiled only by a hamburger stand and a power plant.

"Let's see," said Ricardo, checking his knapsack. "We've got the compass and lots of granola bars. How's the radio working, Mary?"

"Like a charm," answered Mary. "And I just put in new batteries."

"Skip's got the bits of ribbon," noted Gail.

"Skip, are you listening?"

"Oh yeah—sure," Skip replied nervously.

"Then let's get going!" said Vikki. Everyone set off into the woods, Vikki and Mary in the lead, Skip trailing a distant sixth.

The air was fresh and filled with the sounds of birds. Everywhere there were lush trees and babbling brooks. For a while the hike seemed the perfect way to spend a summer day.

The Dreaded Triangle?

Skip was the first to hear the hum. "Is it my imagination, or are we entering the dreaded Groveland Triangle?"

"This is the place," whispered Chelsea.

The girls had not exaggerated. As the group moved into the "triangle" the compass needle began to swing. A steady hum pierced the air.

"Turn on the two-way radio," said Vikki. Mary switched it on. Nothing came out but squeaks and static.

"Let's get out of here!" shouted Skip.

"Wait!" said Vikki. "We came here to investigate!"

"You're right," agreed Ricardo. "There's got to be a reasonable explanation for all this."

"There does?" trembled Skip.

"Wow! Look at that!" exclaimed Ricardo.

There was no mistake about it. A pattern of strange lights was flickering across the treetops.

"Oh boy," muttered Skip, his head in his hands. "Give me a plain old burglar any day..."

The group decided to send one person exploring along the edge of the "Groveland Triangle." Ricardo volunteered. He took the compass with him, trying to find out whether, at some point, the needle would stop veering.

Skip, Vikki, and the three girls sat down to eat the snacks they had brought.

"It's been almost half an hour," said Mary. "We said we'd go look for him."

The Search for Ricardo

"At least those lights have stopped—for now," noted Skip.

Five minutes later, when Ricardo still hadn't returned, the kids split up into two groups to look for him.

"Crazy compasses, weird lights, and now, someone disappearing off the face of the Earth," groaned Skip.

"He's got to be around here," said Mary.

"Are you sure?" Chelsea asked timidly.

When Mary's group returned to the clearing, Vikki and Gail were waiting for them—without Ricardo.

"Are you ready for some more bad news?" asked Vikki. "When we were looking for Ricardo, we checked on the ribbon trail we left on the way in. It's gone!"

"Gone!" wailed Gail. "Now we'll never find our way out!"

Just then the humming noise grew quieter. So did the five explorers. They began to hear another noise—this time a welcome one.

"It sounds like Ricardo!" Skip exclaimed.

"It's coming from that direction," pointed Vikki, motioning to the right. "Let's go!"

Curiouser and Curiouser

As she followed the sound of Ricardo's voice, Vikki spotted yet another curious thing. "Look at this, Mary. It looks as if someone else has been lost in the Groveland Triangle."

Vikki was pointing to a bit of green cloth stuck to a tree. ➡





ILLUSTRATION BY BOB PEPPER

"Are you sure that's not one of ours?" asked Mary. "It looks familiar."

Just then, the two girls heard Skip's voice up ahead: "We've found him!"

Ricardo had indeed been found—stuck inside an old shed. It had no windows. The only light inside came from a giant hole in the roof.

"What happened?" demanded Chelsea.

"I'm not exactly sure," answered Ricardo. "I was just poking around inside the shed when suddenly the door swung shut and stuck."

"You know, looking up through the roof you notice all kinds of neat things, like patches of blue sky between the trees, and power lines, and..."

"Did you say 'power lines'?" asked Vikki.

A few minutes later, Vikki had climbed a tree. "There *are* power lines up there!" she said.

"That explains the hum—and the compass!"

"The hum I understand," said Mary. "Power lines make a humming noise, but what about the compass?"

A Logical Explanation

"A compass is a magnetic needle that points in the direction of the magnetic north pole, right?" said Vikki. She searched in her knapsack for a pocket knife. She placed it to the right of the compass.

"Look at that!" said Mary as the compass needle moved in the direction of the knife.

"Because this is a magnetic needle, it's drawn toward metal objects," Vikki explained. "But there's something else that affects a compass."

"Electricity!" chimed in Ricardo.

"Electricity can cause objects to be magnetized," said Skip. "So it makes sense that a strong electrical current could make a compass needle swing."

"But what about the lights?" asked Mary. "And the radio, and our disappearing ribbon trail, and—"

"Say no more" interrupted Vikki. "A glimpse into the treetops gave me an idea about that, too. Skip, Ricardo—come with me!"

A few minutes later, Vikki and Skip returned.

"Here," said Skip, holding out a couple of large flashlights, "are the mysterious lights."

"And here," continued Vikki, carrying a two-way radio, "is the source of your sudden radio breakdown. Deliberate interference."

Skip went on, "And here's a batch of ribbons, collected from our way in—"

"I should have known," said Gail as Ricardo dragged two boys into the clearing. It was Mary's brother Joel and his friend Brad. Joel's green T-shirt was torn.

"I should have recognized that bit of green cloth we found!" said Mary.

"Say, Mary," pleaded Joel, "You're not going to tell Mom, are you?"

"That depends," said Mary. "We're all tired from our hike. It's a good thing these boys came along to carry our knapsacks."

"Boy!" said Ricardo as he loaded up the two boys. "When we set out this morning we thought we were investigating a triangle."

"But," laughed Mary, looking at Joel and his friend, "we ended up with a pair of squares!"

**Watch for next month's
Bloodhound Gang
mystery!**



ILLUSTRATION BY DAVE FEE BL AND

Special



Section

TUNE IN TO SQUARE ONE TV ON YOUR LOCAL PBS STATION



Guess
The
Secret
Word!

PEE-WEE: Gee, Jambi! You said you'd give me a **quarter** if I guessed the secret word. But I **half** no idea what it is!

You told me that it shows up when things go to pieces. But I just can't figure it out!

JAMBI: All right, Pee-Wee. I'll give you a **third** clue: **6/8** of the secret word is "___ ACTION!"

But if you can't get this, Pee-Wee, say "Mekka-lekka-hi mekka-hiny-ho" and turn to the Did It page!

CAN YOU HELP PEE-WEE GUESS THE SECRET WORD?

THE Phoneymooners

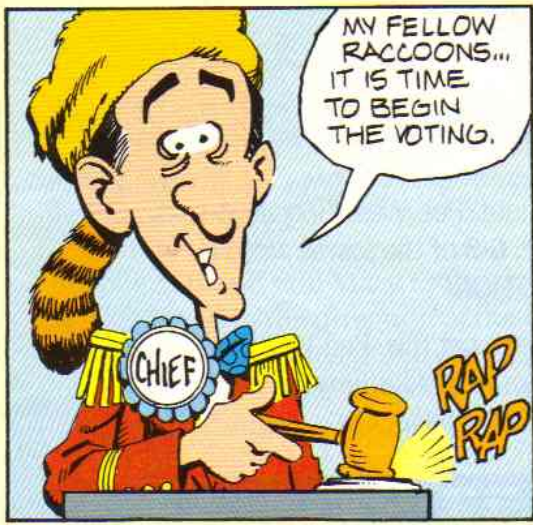
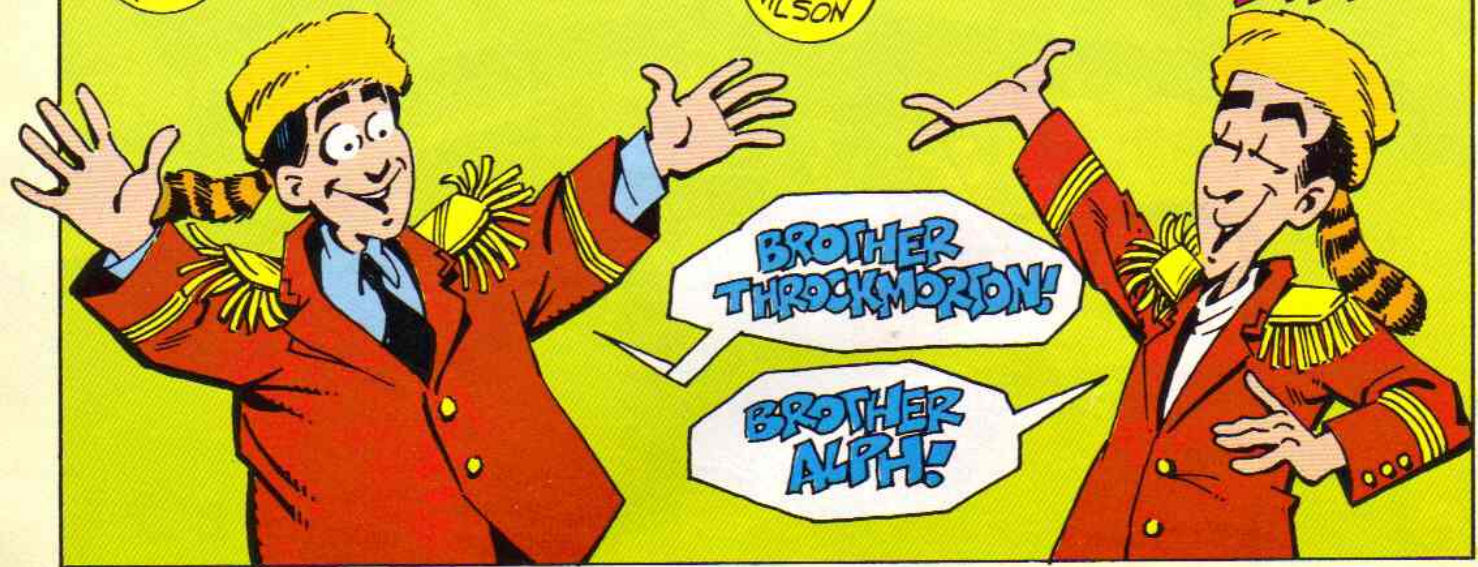
PUZZLE

STORY BY
ERIC
WEINER

ART BY
KEITH
WILSON



**HELP
ALPH GET
EVEN**

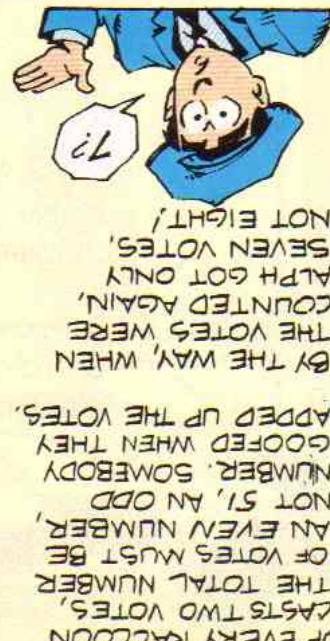




HELP ALPH WIN THE ELECTION!

WHY CAN THROCKMORTON ASK THAT THE VOTES BE COUNTED OVER?

IF YOU'RE STUMPED, TURN THIS PAGE UPSIDE DOWN!



BLACKSTONE'S *Magic Page*

Learn this trick and amaze your friends!

**WHILE YOUR BACK IS TURNED, SOMEONE WRITES
DOWN 10 NUMBERS...YOU GUESS THE SUM!**

SHAZAM! You can guess the sum of 10 numbers, without looking at them!!

HERE'S HOW:

1. Tell a friend to write down any two numbers they want, one under the other. Each number should be less than 10.

Example:

1st number— 3

2nd number—9

2. Now tell them to add the two numbers and write the sum underneath.

3

9

third number—12 (that's $3 + 9$)

3. Now tell them to add the second and third number and write that sum underneath.

3

2nd number— 9

3rd number— 12

4th number— 21 (that's $9 + 12$)

4. Now once again tell them to add the last two numbers. $12 + 21 = 33$. So they should write 33 under 21. Tell them to repeat this five more times. Each time they should add the last two numbers to make the new number. They should end up with a column of 10 numbers.

5. Say, "Now I'll guess the sum!" Pretend to think hard. Give up.

6. Ask for a hint. Say, "What's the 7th number in your list?"

7. Multiply the 7th number by 11. (Use a notepad or a calculator to do the figuring.) That will always give you the answer—as long as neither of you has made a mistake!

Remember, this will always work, no matter what two numbers you start with!



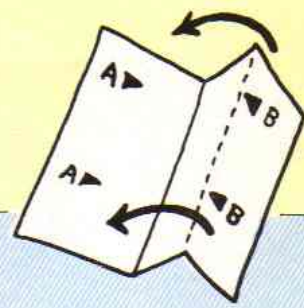
Denti-crud
claims 100%
approval.

Fold in to find
out what's wrong
with this survey.

Yes, fans. Just when
you least expect it, it's a...

SQUARE ONE FOLD-IN

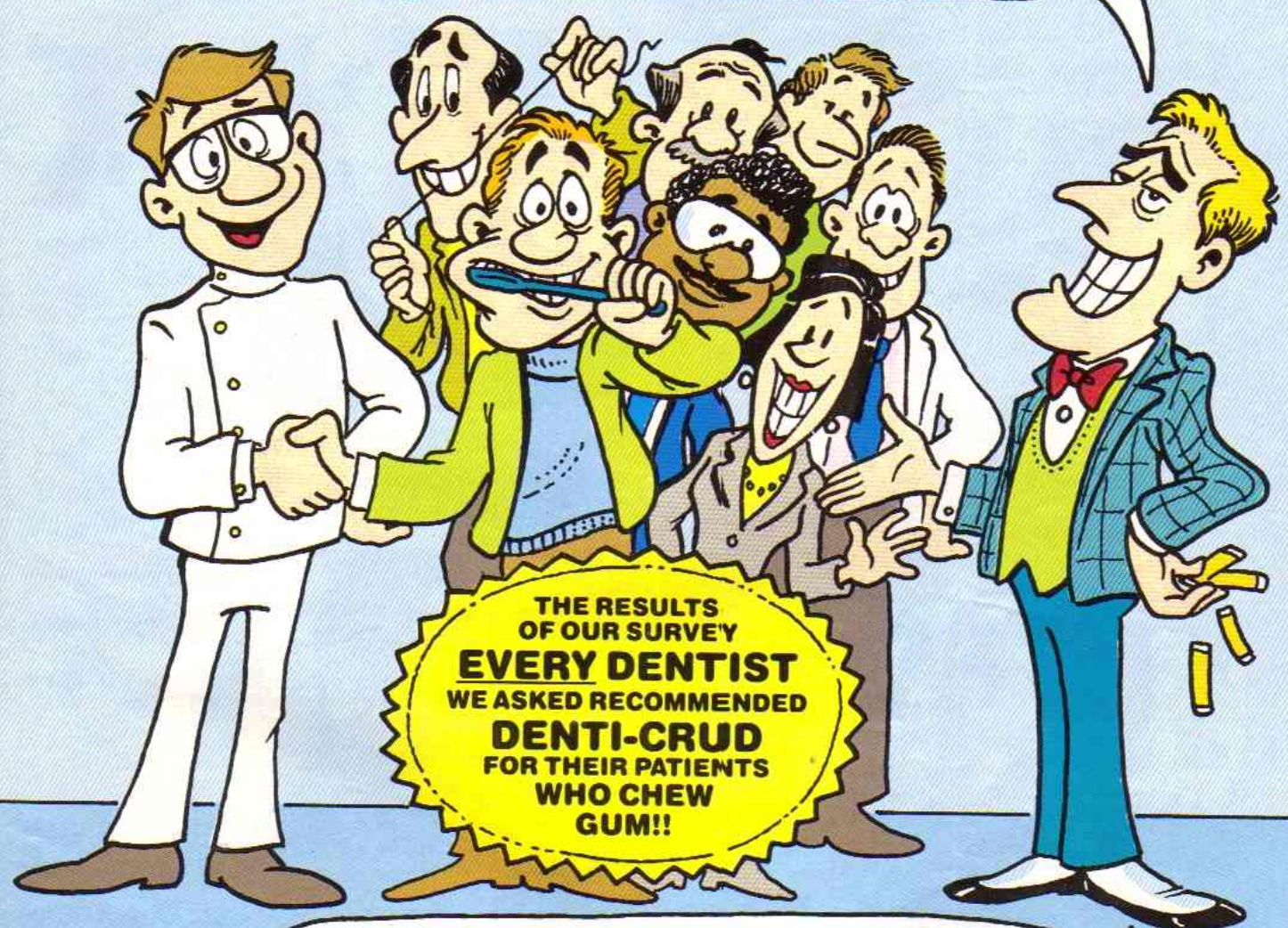
Fold in like this so that
'B' meets 'A'.



A ▶

◀ B

I'M GLAD MY GUM IS CATCHING
ON LIKE MAD. I OWN THE COMPANY
ASK YOUR DENTIST WHY YOU NEED
OUR PRODUCT. THIS GUM'S THE ONE
DENTISTS PUT AT THE TOP OF THE LIST!



THE RESULTS
OF OUR SURVEY
EVERY DENTIST
WE ASKED RECOMMENDED
DENTI-CRUD
FOR THEIR PATIENTS
WHO CHEW
GUM!!

DENTI-CRUD IS
MIGHTY TASTY AND MIGHTY FINE!

A ▶

◀ B

SQUARE ONE WANTS TO KNOW



We asked some kids, "What's the best brainteaser you know?"

Can you solve their favorite stumpers? To see if you're right, check the Did It! page for the answers.



1

**SHAWN
POWELL**

A pen and a bottle of ink cost \$1.10. The pen costs exactly one dollar more than the bottle of ink. What does the pen cost?



4

**KERI
GIANUNZIO**

How many 25-cent stamps are there in two dozen?



2

**HEATHER
CASTELLANI**

How many times can seven be subtracted from 77?



5

**PEDRO
SOBRAL**

How much dirt is there in a hole one foot deep, two feet wide, and two feet long?



3

**KEITH
CILENTIO**

Can you prove that half of 8 might be 3 or 0?



6

PHOTOGRAPHY: NICK KOLDIS

**NICOLE
RICE**

Starting with the number one, what is the first number that uses the letter A when its name is spelled out? Sorry, no fractions allowed!

You've probably heard of Rubik's Cube. But can you solve...

SQUARE ONE'S

MYSTERY TUBE!

**BUILD THIS PUZZLE, THEN
PUZZLE YOUR FRIENDS!**

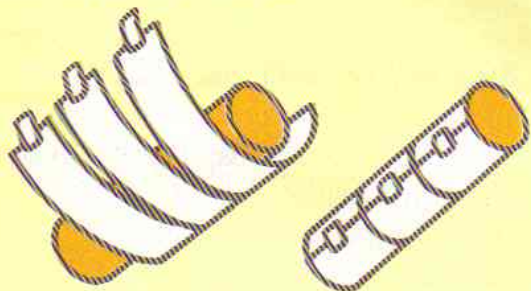
YOU'LL NEED:

A toilet paper tube. Clear tape. Scissors.

HOW TO MAKE IT:

1. Cut out the three strips on this page. (BE CAREFUL: Don't cut into the three strips on the other side of this page!)

2. Fold strip ONE around the paper tube. Tape both ends of the strip together. Do not tape the strip so it sticks to the tube. It must be free to move around the tube. Then do the same with strips TWO and THREE. They should be in order on the tube, ONE, TWO, THREE.

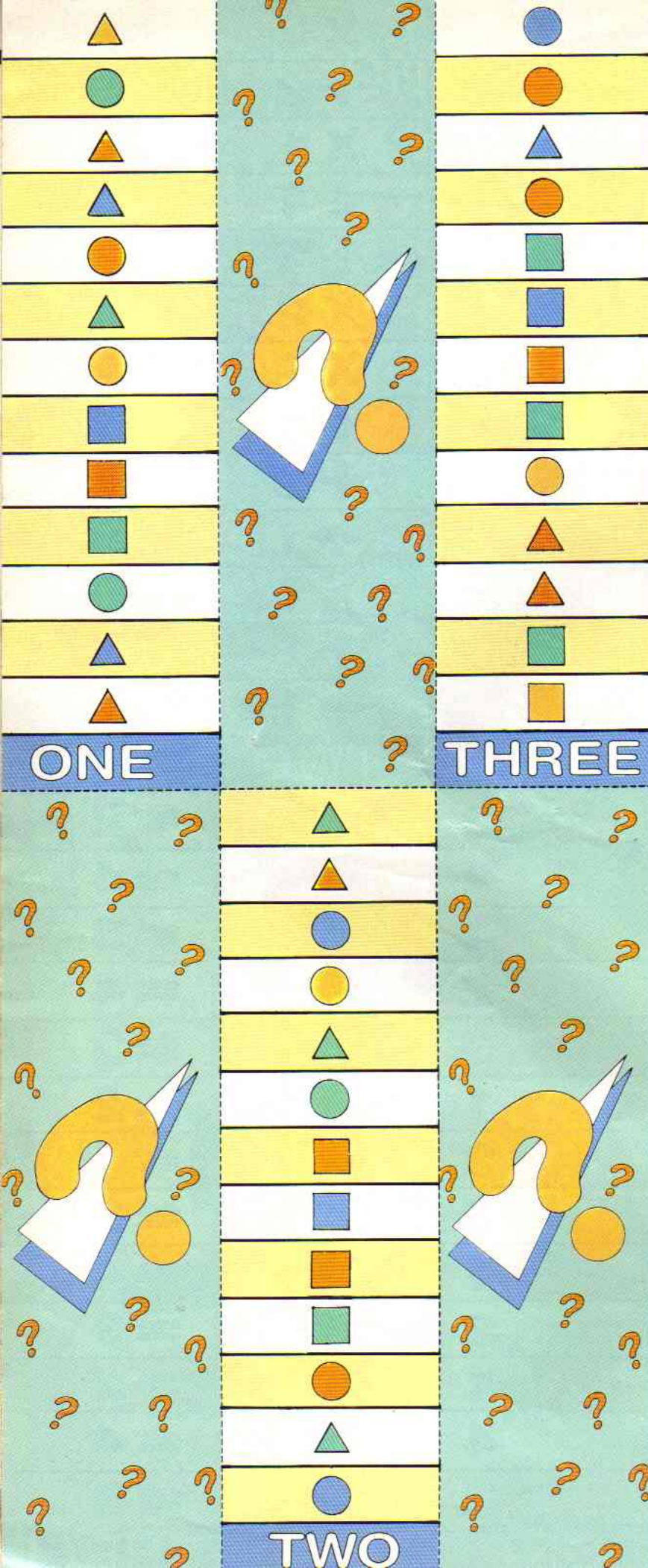


NOW TRY TO SOLVE THE PUZZLE:

Your finished tube will probably say things like $2 + 2 = 3$! Can you turn the strips so that the answer to *every* math problem is correct?

If you're having trouble solving your Mystery Tube, turn to the Did It! page for a hint.

?	X 2	?
?	+ 2	?
?	X 1	?
?	+ 1	?
?	+ 2	?
?	X 2	?
?	X 1	?
?	+ 1	?
?	+ 2	?
?	- 1	?
?	X 1	?
?	+ 1	?
?	- 1	?
?	TWO	?
3	?	= 2
2	?	= 4
1	?	= 3
2	?	= 4
3	?	= 3
1	?	= 2
2	?	= 4
3	?	= 3
1	?	= 4
2	?	= 3
4	?	= 2
4	?	= 4
2	?	= 3
ONE	?	THREE



Just when you thought it was safe to turn the page! It's...

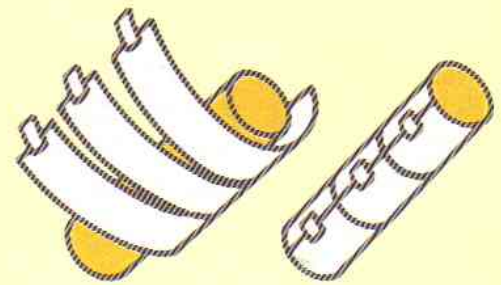
SQUARE ONE'S

MYSTERY TUBE!

PART II

**WANT TO STUMP YOUR FAMILY?
BUILD THIS PUZZLE!**

Here's another build-it-yourself tube puzzle. Put it together just like your first tube. (To find out how, turn back one page.)



NOW TRY TO SOLVE THE PUZZLE:

To solve this puzzle, you have to twist the strips until every row has three different shapes in it: a circle, a square, and a triangle. (The colors don't have to match.) Happy twisting!

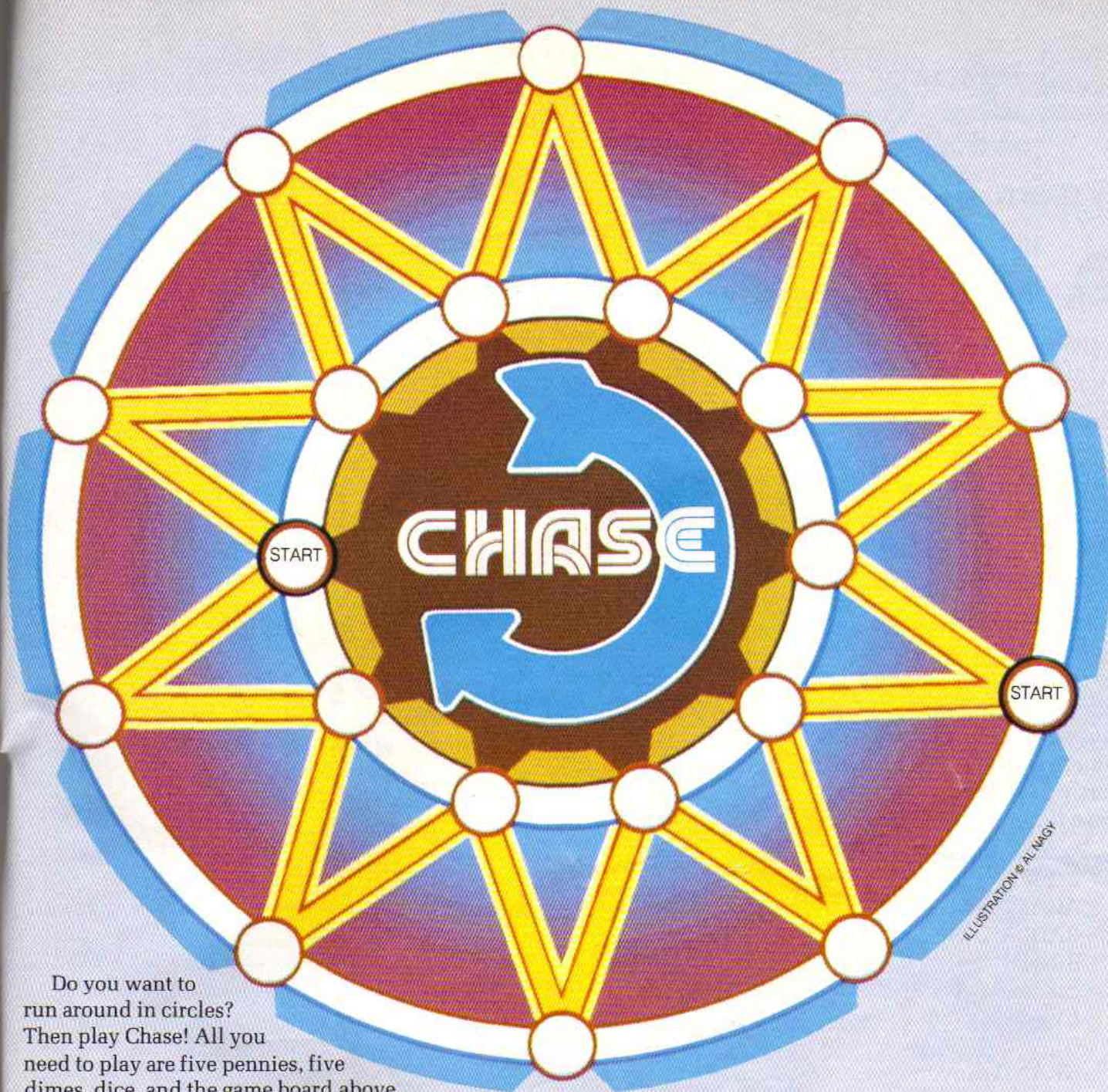


ILLUSTRATION © AL MAGY

Do you want to run around in circles? Then play Chase! All you need to play are five pennies, five dimes, dice, and the game board above.

Starting the Game

- ★ Two people play. One uses five dimes as pieces, the other uses five pennies.
- ★ Roll one die to see who goes first. The highest number starts and chooses between two paths.
- ★ One player moves only on the white circles. The other uses only the yellow zigzag path between them. Each path has advantages. The circles move faster. But the zigzags can slide from one circle to the other.

How You Move

- ★ Throw the die to see how many spaces to move. Take turns moving in a clockwise direction.
- ★ Pieces enter at the two spaces marked START.
- ★ Begin counting after the start space.
- ★ You may move a piece already on the board or you may start a new one.

Capturing Your Opponent

- ★ You capture your opponent's piece by landing on the space where it is sitting. Remove the piece. To capture, you must land exactly on the space, not just pass over it.
- ★ If two or more of your pieces are on one space at the same time they are SAFE. They can't be captured.
- ★ You cannot land on another person's SAFE space. If you see that one of your pieces will land on a safe space, you must move another piece. If you only have that piece left to move, you lose a turn.

Winning

- ★ The winner is the one who captures all of the other player's pieces. As you play, figure out the best strategy. After you play, switch paths with the other player and see what happens!

Extra!

by Ellen R. Mednick



"Bearly" There

Wait, you're not done yet! How many bears can you find hidden on this page?

Get set for plenty of summer fun in this month's EXTRA!

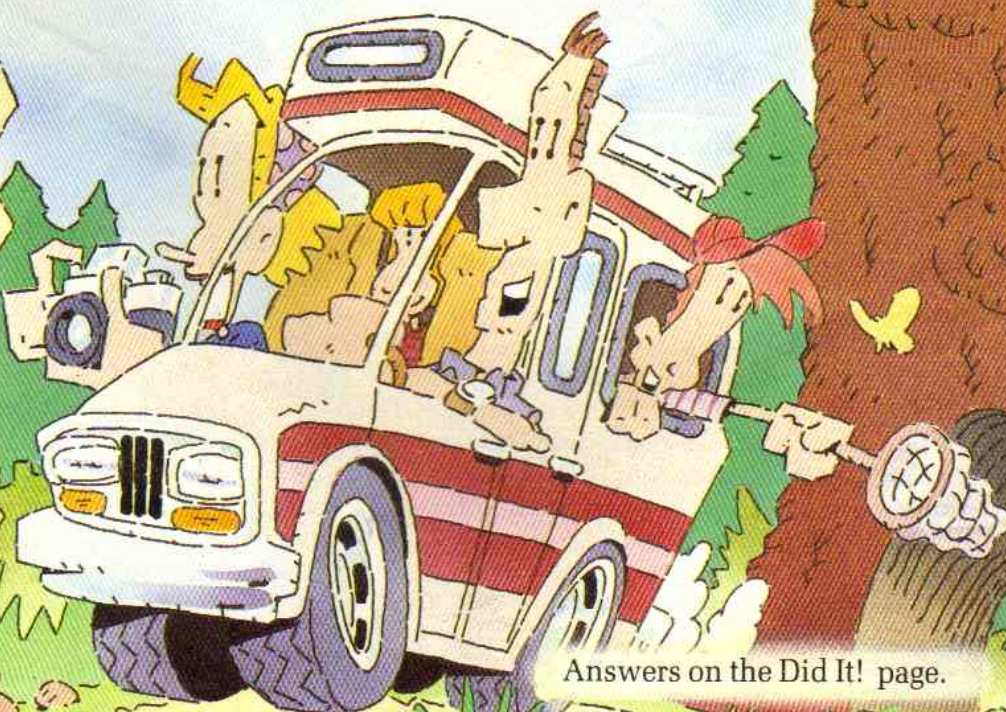
Parks On Parade

Yellowstone National Park—the home of the grizzly bear—is just one of many national parks in the U.S.

How many parks can you find hidden in the word search? The names are written in CAPITAL letters and go across, backwards, up, down or diagonally. When you're finished, the leftover letters will spell out a special message from Smokey the Bear.

ACADIA
BADLANDS
BRYCE
carlsbad CAVERNS
EVERGLADES
GLACIER
GRAND canyon
great smokey
MOUNTAINS
KINGS canyon
MAMMOTH cave
MESA verde
petrified FOREST
YELLOWSTONE
national park
YOSEMITE
national park
ZION

O	M	A	M	M	O	T	H	N	L
Y	Y	E	T	I	M	E	S	O	Y
O	K	C	S	U	O	C	D	C	E
A	I	Y	N	A	U	A	N	P	L
G	N	R	R	E	N	V	A	A	L
L	G	B	V	E	T	E	L	I	O
A	S	N	D	T	A	R	D	D	W
C	F	Z	N	O	I	N	A	A	S
I	R	I	A	E	N	S	B	C	T
E	F	O	R	E	S	T	S	A	O
R	T	N	G	F	I	R	E	S	N
S	E	D	A	L	G	R	E	V	E



Answers on the Did It! page.

Raisin Power

How do you raise a raisin? They start out as grapes on a vine, but then they're dried by the sun.

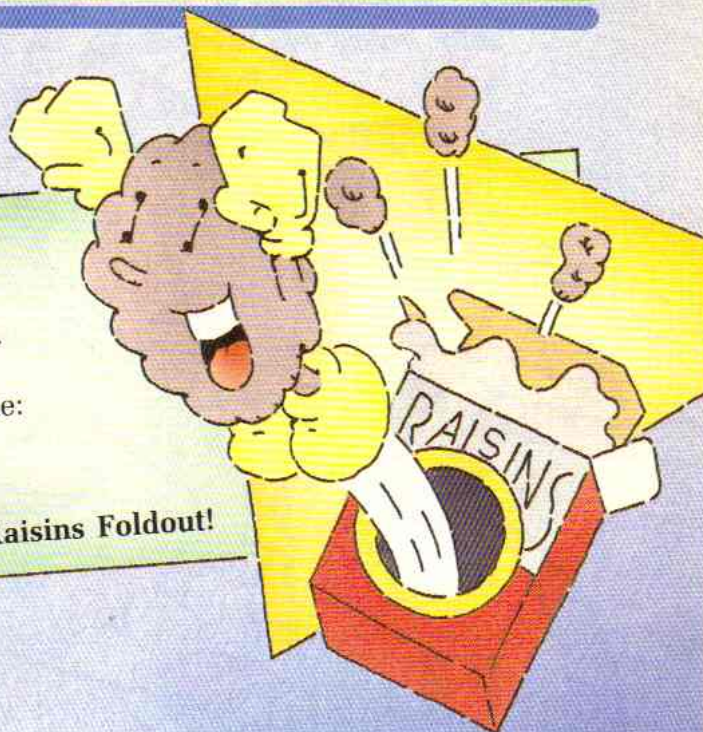
If you want to know more about raising raisins, send a postcard with your name and address to the:

California Raisin Advisory Board

P.O. Box 5172

Fresno, CA 93710

Just ask for the **Makin' Raisins Foldout!**



Hollywood—Here We Come!

In this issue, you've read all about how clay animators and filmmakers create storyboards before a movie is made. The storyboards have a drawing of each scene and the words that go with it.

In this contest, we want you to draw your own storyboard for a very short movie. First, decide what your movie will be about. It can be science fiction, a comedy, or even about something that happened a long time ago.

Draw a series of pictures—12 at the most. Make sure each picture reveals a little more of the story. Fill in the words. Remember—your drawings should have plenty of action.

Then send the storyboard to:

3-2-1 CONTACT Magazine

Storyboard Contest

1 Lincoln Plaza

New York, NY 10003

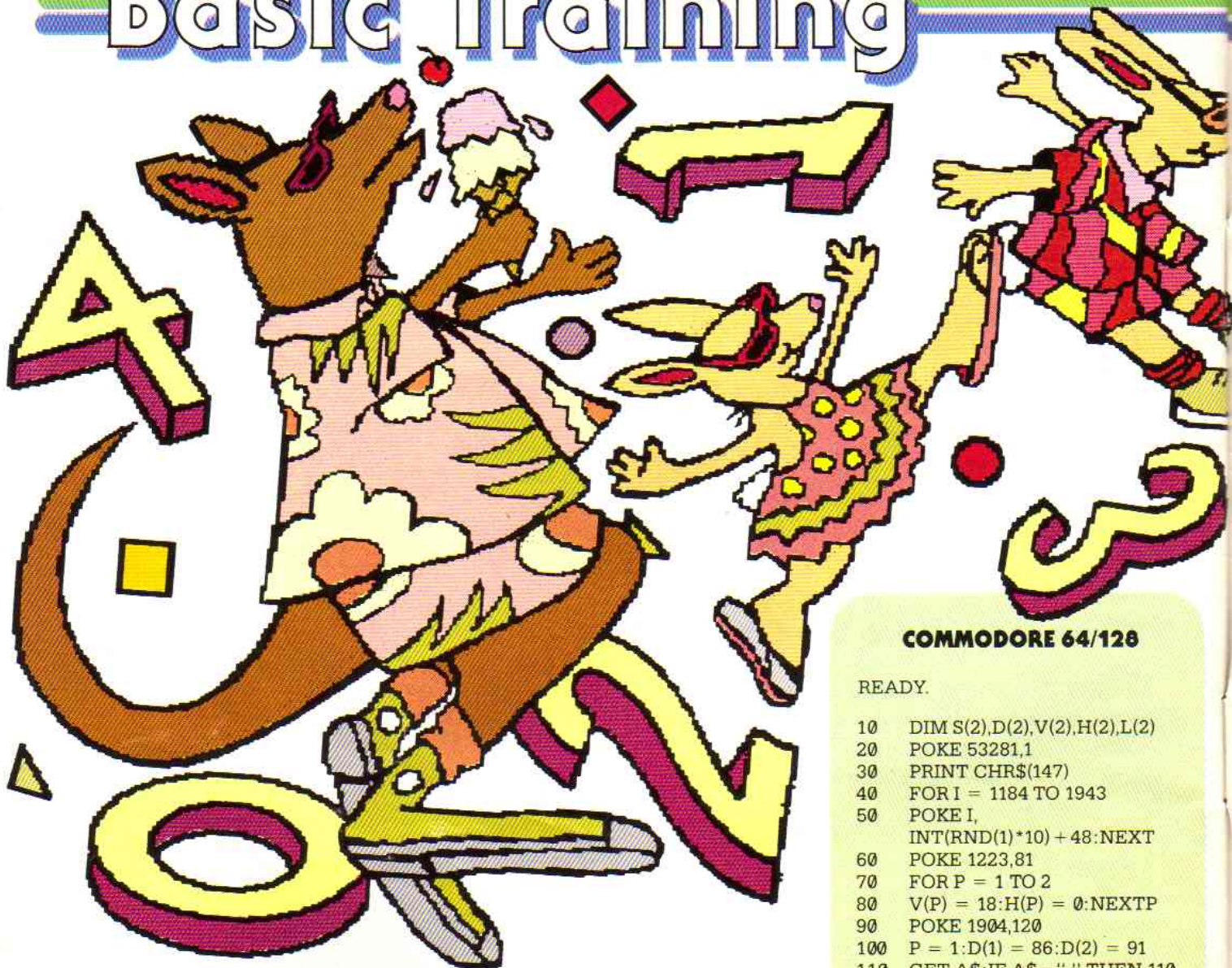
We'll choose our five favorite storyboards. Winners will receive copies of the "California Raisins" record album, which includes "I Heard It Through the Grapevine."



ILLUSTRATIONS BY RICHARD WEISS



Basic Training



Number Maze

Here's a game you can really count on. Everything about it adds up to fun. The object is to travel across the screen, jumping from number to number. Each number you land on is added to your score. But here's the catch: The player with the lowest score wins!

There are two players in the game represented by an X and a Y. Each player starts on the zero in the lower left-hand corner of the screen. (The X and Y don't appear until you start playing.)

To move, you press the I, J, K, or M keys on your keyboard. You can

go up, down or sideways but not diagonally. Each number you land on is added to your score. If you try to move off the board, you lose a turn.

The first player to reach the dollar sign in the upper right-hand corner gets a bonus: Thirty points are subtracted from his score. If you land on the other player you receive a penalty: Thirty points are added to your score.

Since the player who goes first has a slight advantage, you should take turns going first to make the game fairer.

Thanks to **Marc Coram**, of Canyon County, California, for adding this program to our collection.

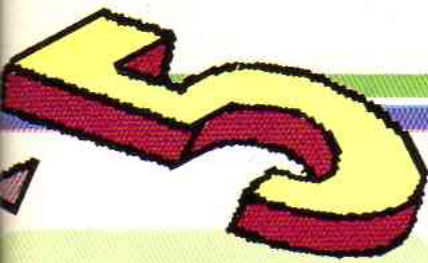
COMMODORE 64/128

READY.

```

10 DIM S(2),D(2),V(2),H(2),L(2)
20 POKE 53281,1
30 PRINT CHR$(147)
40 FOR I = 1184 TO 1943
50 POKE I,
  INT(RND(1)*10) + 48:NEXT
60 POKE 1223,81
70 FOR P = 1 TO 2
80 V(P) = 18:H(P) = 0:NEXTP
90 POKE 1904,120
100 P = 1:D(1) = 86:D(2) = 91
110 GET A$:IF A$ = " " THEN 110
120 IF A$ = "I" THEN V(P) =
  V(P) - 1:GOTO 170
130 IF A$ = "M" THEN V(P) =
  V(P) + 1:GOTO 170
140 IF A$ = "J" THEN H(P) =
  H(P) - 1:GOTO 170
150 IF A$ = "K" THEN H(P) =
  H(P) + 1:GOTO 170
160 GOTO 110
170 IF V(P) < 0 THEN V(P) = 0
180 IF V(P) > 18 THEN V(P) = 18
190 IF H(P) < 0 THEN H(P) = 0
200 IF H(P) > 39 THEN H(P) = 39
210 L = 1184 + ((V(P)) * 40) + H(P)
220 IF L = L1(P) THEN 290
230 B = PEEK(L):POKE L,D(P)
240 IF L = 1223 THEN 320
250 T = B - 48:S(P) = S(P) + T
260 IF B > 58 THEN GOSUB 500
270 POKE L1(P),B1(P)
280 L1(P) = L:B1(P) = B
290 PRINT "PLAYER #";P;
  "—";S(P)

```

```

300 P = P + 1: IF P > 2 THEN P =
1: PRINT CHR$(145);: PRINT
CHR$(145);
310 GOTO 110
320 S(P) = S(P) - 30: PRINT
CHR$(147)
330 PRINT "PLAYER 1:"; S(1)
340 PRINT "PLAYER 2:"; S(2)
350 IF S(2) > S(1) THEN 370
360 PRINT "PLAYER #2
WON": GOTO 380
370 PRINT "PLAYER #1 WON"
380 END
500 IF P = 1 THEN B = B1 (2)
510 IF P = 2 THEN B = B1 (1)
520 RETURN

```

READY.



```

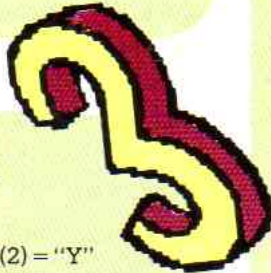
10 DIM A(20,40)
20 D$(1) = "X": D$(2) = "Y"
30 HOME
40 FOR I = 1 TO 35
50 FOR J = 5 TO 18
60 HTAB I: VTAB J
70 N = INT (RND (1) * 9)
80 HTAB I: VTAB J
90 PRINT N: A(J,I) = N
100 NEXT J: NEXT I
110 VTAB 5: HTAB 35: PRINT "$"
120 A(18,1) = 0: VTAB 18:
PRINT 0
130 FOR P = 1 TO 2
140 V(P) = 18: H(P) = 1
150 V1(P) = 18: H1(P) = 1:
NEXT P
160 P = 1
170 GET A$
180 IF A$ = "I" THEN V(P) =
V(P) - 1: GOTO 230
190 IF A$ = "M" THEN V(P) =
V(P) + 1: GOTO 230
200 IF A$ = "K" THEN H(P) =
H(P) + 1: GOTO 230
210 IF A$ = "J" THEN H(P) =
H(P) - 1: GOTO 230
220 GOTO 170
230 IF H(P) < 1 THEN H(P) = 1
240 IF H(P) > 35 THEN H(P) = 35
250 IF V(P) < 5 THEN V(P) = 5
260 IF V(P) > 18 THEN V(P) = 18
270 HTAB H(P): VTAB V(P):
PRINT D$(P)

```

```

280 IF H(P) = 35 AND V(P) = 5
THEN 410
290 IF H1(P) = H(P) AND V1(P) =
V(P) THEN 370
300 IF P = 1 THEN 330
310 IF H1(1) = H(P) AND V1(1) =
V(P) THEN S(P) = S(P) + 30:
GOTO 350
320 GOTO 340
330 IF H1(2) = H(P) AND V1(2) =
V(P) THEN S(P) = S(P) + 30:
GOTO 350
340 S(P) = S(P) + A(V(P),H(P))
350 HTAB H1(P): VTAB V1(P)
360 PRINT A(V1(P),H1(P))
370 H1(P) = H(P): V1(P) = V(P)
380 VTAB P: PRINT "PLAYER
#"; P; "—"; S(P)
390 P = P + 1: IF P > 2 THEN
P = 1
400 GOTO 170
410 S(P) = S(P) - 30: HOME
420 PRINT "PLAYER #1:"; S(1)
430 PRINT "PLAYER #2:"; S(2)
440 IF S(2) > S(1) THEN 460
450 PRINT "PLAYER #2 WON!!!":
GOTO 470
460 PRINT "PLAYER #1 WON!!!"
470 END

```



IDM

```

10 DIM A(23,40)
20 D$(1) = "X": D$(2) = "Y"
30 CLS: PRINT: PRINT
40 FOR I = 3 TO 23
50 FOR J = 2 TO 38 STEP 3
60 N = INT(RND(1)*9)
70 A(I,J) = N
80 PRINT N;
90 NEXT J: NEXT I
100 LOCATE 23,2: PRINT "0"
110 A(23,2) = 0
120 LOCATE 3,38: PRINT "$"
130 LOCATE 1,1
140 FOR P = 1 TO 2
150 V(P) = 23: H(P) = 2: V1(P) = 23:
H1(P) = 2
160 NEXT P
170 P = 1: L = 2
180 A$ = INKEY$
190 IF A$ = "" THEN 180
200 IF A$ = "I" THEN
V(P) = V(P) - 1: GOTO 250
210 IF A$ = "M" THEN
V(P) = V(P) + 1: GOTO 250

```

```

220 IF A$ = "K" THEN
H(P) = H(P) + 3: GOTO 250
230 IF A$ = "J" THEN
H(P) = H(P) - 3: GOTO 250
240 GOTO 180
250 IF H(P) < 2 THEN H(P) = 2
260 IF H(P) > 38 THEN H(P) = 38
270 IF V(P) < 3 THEN V(P) = 3
280 IF V(P) > 23 THEN V(P) = 23
290 LOCATE V(P), H(P): PRINT
D$(P)
300 IF H(P) = 38 AND V(P) = 3
THEN 430
310 IF H(P) = H1(P) AND
V(P) = V1(P) THEN 390
320 IF P = 1 THEN 350
330 IF H1(1) = H(P) AND
V1(1) = V(P) THEN
S(P) = S(P) + 30: GOTO 370
340 GOTO 360
350 IF H1(2) = H(P) AND
V1(2) = V(P) THEN
S(P) = S(P) + 30: GOTO 370
360 S(P) = S(P) + A(V(P),H(P))
370 X = H1(P): LOCATE V1(P), X-1
380 PRINT A(V1(P),H1(P))
390 H1(P) = H(P): V1(P) = V(P)
400 LOCATE P,1: PRINT "PLAYER
#"; P; "—"; S(P)
410 SWAP PL
420 GOTO 180
430 S(P) = S(P) - 30: CLS
440 PRINT "PLAYER #1:"; S(1)
450 PRINT "PLAYER #2:"; S(2)
460 IF S(2) > S(1) THEN 480
470 PRINT "PLAYER #2 WON!!!":
GOTO 490
480 PRINT "PLAYER #1 WON!!!"
490 END

```

Send Us Your Programs

If you've written a program you'd like us to print, send it in. Include a note telling us your name, address, age, T-shirt size and type of computer. If we like it, we'll print it and send you \$25.

All programs must be your own original work. We cannot return programs. Please do not send disks.

Send your program to:

Basic Training
3-2-1 CONTACT Magazine
1 Lincoln Plaza
New York, NY 10023

The Slipped Disk Show

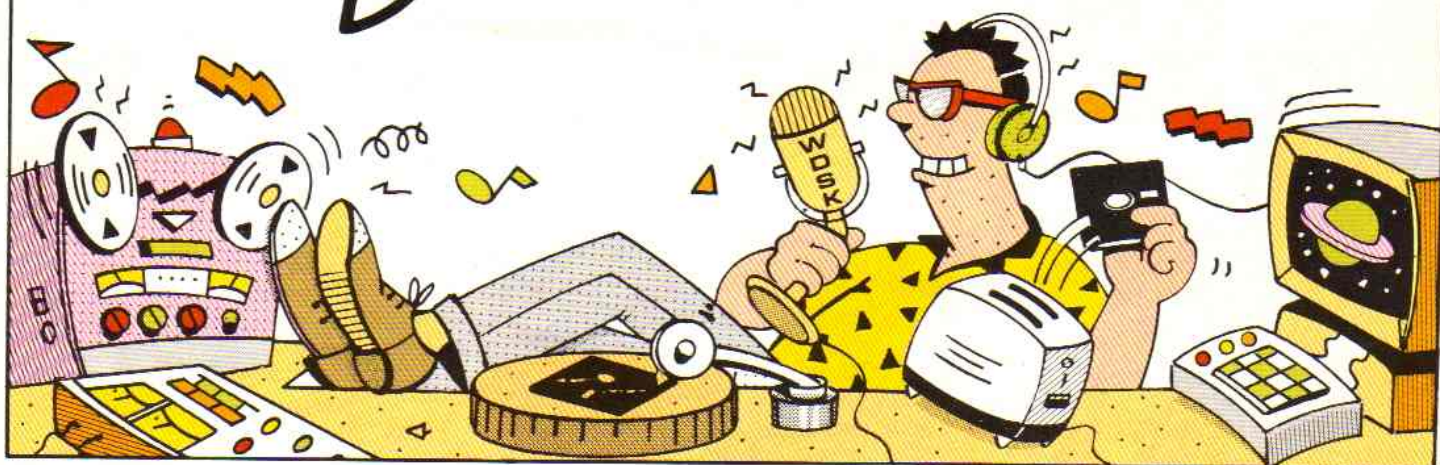


ILLUSTRATION BY CAMERON EAGLE

Hi-ho, hackers! It's time once again for the Slipped Disk Show, with me, Slipped Disk, the wild, wacky wizard of the wonderful, wide world of womputers, (uh, that's computers).

Floppy, my fellow computer expert (who also happens to be my dog) couldn't be here for this month's show because he's busy picking a spot for our summer vacation. Boy, I wonder which exciting place we're going to go to this year? Maybe we'll visit Hawaii, or even Brooklyn!

Anyway, while Floppy is busy making plans, I better get busy answering some questions. Here's one from **David Stanhope**, 10, of Hanover, New Hampshire:

"What is a gigabyte?"

Now, that's a good question. I wish Floppy was here to tell me the answer. But he's probably at the travel agent right now getting our plane tickets, so I'll have to answer you myself.

David, *giga* is a prefix that means one billion. So you can think of a gigabyte as a chunk of computer memory that can hold one billion bytes! But there's a byte, uh I mean,

a bit more to it.

Let's start at the beginning. A byte is the basic unit of computer memory. It can hold one letter or one number. *Kilo* is the prefix that means one thousand, but a kilobyte actually holds 1,024 bytes. *Mega* usually means one million, but a megabyte actually holds more than one million bytes. A megabyte is 1,024 kilobytes. Which is $1,024 \times 1,024$ or 1,048,576 bytes! And a gigabyte is actually more than one billion bytes. It's actually, uh, well, let's not byte off more than we can chew.

It sounds complicated, but most of the time you can think of a kilobyte as a thousand, a megabyte as a million and a gigabyte as a billion.

Thank goodness this next letter contains just one question, or Floppy and I will never get to go on vacation. It is from **Heather Winfield**, 12, of Ewa Beach, Hawaii. Heather wants to know:

"What is DOS and what does it do?"

Heather, DOS stands for Disk Operating System. Every computer has some kind of DOS, although it may be called by another name. You

can think of DOS as the program that runs all the other programs in your computer.

Say you have a game program on a disk. Before you can play that game, it has to be loaded from the disk into your computer's memory. The DOS program contains instructions that the computer follows to load and run programs from a disk.

On a personal computer, the DOS usually does more than handle disks. It also contains all the instructions for printing, processing and all the jobs the computer has to do. On computers like the Commodore 64 and Atari XL, the DOS is built-in. On the Apple and the IBM, the DOS comes on a disk that you put in every time you turn on the computer.

Speaking of instructions, I told Floppy to be back by the end of the show. I wonder what's taking him so long? Well, I'll let you know next month. Meanwhile, keep sending in your computer questions to this address:

The Slipped Disk Show
3-2-1 CONTACT Magazine
1 Lincoln Plaza
New York, NY 10023
Aloha!

Floppy uses suntan lotion with a fur protection factor of 15.

Reviews



Video

Pee-Wee's Playhouse

Hi-Tops Video—A Division of Heron Communications, Inc.

Calling all Pee-Wee Herman fans! If you just can't get enough of Pee-Wee's Playhouse, then you're in luck! Twenty-three episodes of the show are now available on

video cassette.

Like wow—now you can laugh all week long and not just on Saturday! Hee-hee-hee!

—Ellen R. Mednick



Software

Speed Buggy

(Data East, Commodore 64, \$35; also for Apple II and Atari ST)

If you loved the arcade version of Speed Buggy, then you're in

luck! Now Speed Buggy can be played at home and it's as exciting as the original.

This is a fast and furious car racing game. There are five courses built to test your skills at handling a four-wheel drive, specially-tuned dune buggy.

You control the buggy by using the joystick. You can speed up, brake, turn and shift gears. And there are plenty of other tricks you can do with your buggy just by using the joystick.

With Speed Buggy there's never a dull moment and it's pure arcade fun. But don't be fooled into thinking the game is simple. It may be easy to learn, but tough to master!

—Phil Wiswell

Book

Exploring Summer

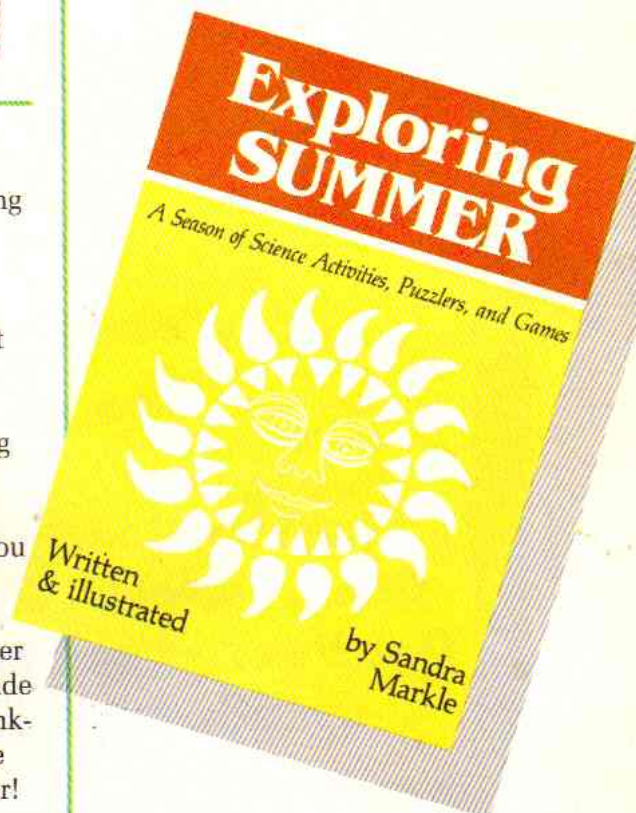
Written and illustrated
by Sandra Markle
Atheneum/Macmillan Publishing Co.,
New York, 1987, \$14.95

Here's a book that will let you get the most out of summer. *Exploring Summer* is filled with neat experiments, puzzles, jokes, games and riddles—enough to keep you busy all summer long.

The book is loaded with hot experiments and tips on travelling and keeping cool. But many of the experiments may be difficult for younger kids. We recommend that you ask a grown-up for help.

When you're finished looking over the book, let your folks read it. *Exploring Summer* has so many fun projects that you'll hope the summer never ends!

—ERM



—Did It!—

Mystery Tube

Hint: The biggest number in the third row is four. Start by lining up the first two rows so that no two numbers add up to more than four!

Square One Wants To Know

1. \$1.05.
2. Only once. After the first time you subtract 7 from 77, 77 changes to 70!
3. Divide 8 in half like this 8 to get 3. Divide 8 in half like this 8 to get 0.
4. 24
5. There's no dirt in a hole.
6. One thousand.

Next Month!

Here's a look at what you will find in the September 1988 3-2-1 CONTACT:

Voyage to Mars

Take a trip into the not-so-far-off future as we talk with scientists about a voyage to Mars.

All About Dreams

Do you dream in color or black and white? Why do people dream? And what do they dream about? You'll find out in this dreamy feature.

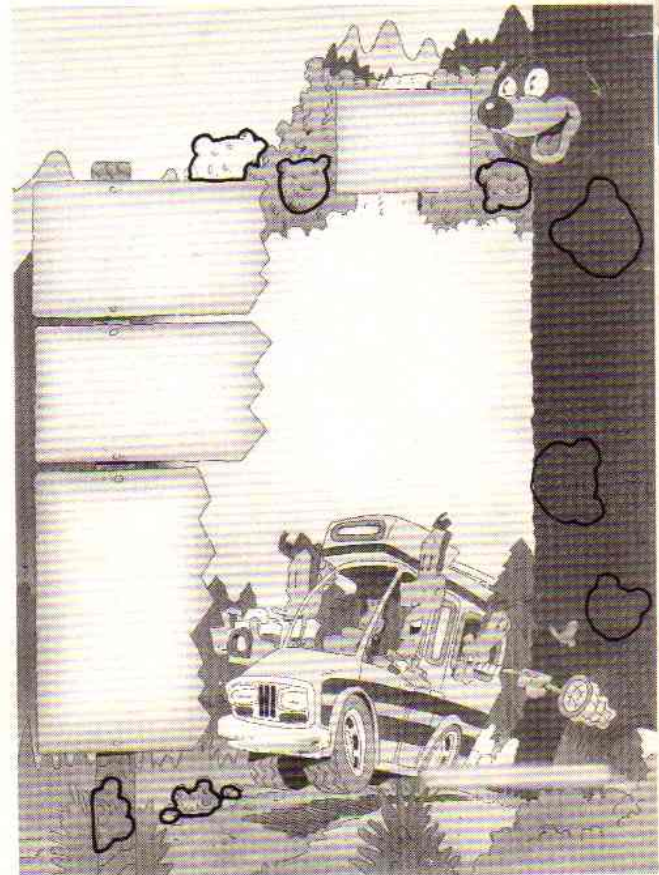
City Wildlife

Falcons in Baltimore...Raccoons in the middle of New York City...From coast to coast, wild animals are returning to cities.

Get the scoop in this story.

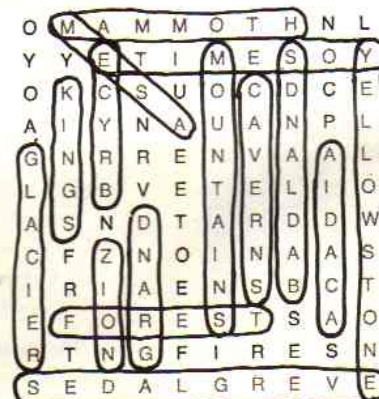
Plus The Bloodhound Gang, Factoids, Square One Puzzles and Games, and Much, Much More!

"Bearly" There



Parks On Parade

Answer: Only You Can Prevent Forest Fires



Guess the Secret Word

Answer: Fraction



EARN FAMOUS NAME

EARN \$1.00 AN ITEM

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SUPER PRIZES



"I'M TELLING" BOARD GAME BY PRESSMAN
Sell 11 Items



WILSON ALL-STAR SOCCER BALL
Sell 13 Items



SNO-SURF TUBE
Sell 10 Items



SPORT FUN'S SUPER SCOOTER
Sell 50 Items



SNOOPY TELEPHONE
Sell 16 Items



"THE JAMMER" AM/FM CLOCK RADIO
Sell 23 Items



KODAK "STYLITE" POCKET CAMERA OUTFIT
Sell 20 Items



SKILCRAFT RADAR BALL
Sell 12 Items



COX P-51 MUSTANG
Sell 21 Items



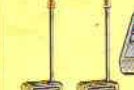
TASCO TELESCOPE
Sell 27 Items



MAGNAVOX PORTABLE TV
Sell 59 Items



WILSON'S MICHAEL JORDAN BASKETBALL
Sell 14 Items



G.E. WALKIE-TALKIE SET WITH MORSE CODE
Sell 17 Items



BONTEMPI ORGAN
Sell 26 Items



JEOPARDY GAME
Sell 13 Items



CARROM ACTION GAME BOARD
Sell 18 Items



LEAP FROG MINI SKATEBOARD
Sell 19 Items



GIRLS' AWATCH "SWITCH-EM" WATCH
Sell 18 Items



TASCO MICROSCOPE LAB
Sell 18 Items



DELUXE UNO CARD GAME
Sell 8 Items



BMX "FREEWHEEL" BICYCLE
Sell 85 Items



SPALDING TENNIS SET
Sell 15 Items



4-IN-1 BIKE RADIO
Sell 10 Items



UNISONIC "HOT NUMBERS" SOLAR CALCULATOR
Sell 9 Items



KODAK 35mm CAMERA OUTFIT
Sell 31 Items



VARIFLEX "BREAKER" SKATEBOARD
Sell 25 Items



RADIO CONTROL CORVETTE
Sell 12 Items



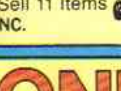
TURBO RACE SET
Sell 18 Items



SPIN FISHING OUTFIT
Sell 21 Items



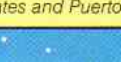
ARMITRON CALCULATOR ALARM WATCH
Sell 10 Items



TWO-MAN BOAT KIT
Sell 21 Items



G.E. STEREO AM/FM CASSETTE HEADSET PLAYER
Sell 22 Items



"TRENDSETTERS" AM/FM STEREO CASSETTE
Sell 53 Items



PARKER BROS. MONOPOLY
Sell 13 Items



RADIO CONTROL "TURBO LEOPARD"
Sell 33 Items



PARKER BROS. BASKETBALL
Sell 8 Items



ACADEMY 3-PERSON DOME TENT
Sell 36 Items



STEMMLER GLASS BOW ARCHERY SET
Sell 19 Items



LATCH HOOK SET
Sell 10 Items



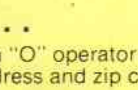
BLACKSTONE MAGIC SHOW SET
Sell 12 Items



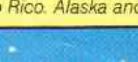
CBS RECORDS OR TAPES
Sell 8 Items



ESTES ELECTRIC LAUNCH ROCKET KIT
Sell 18 Items



X-ACTO DELUXE KNIFE CHEST
Sell 12 Items



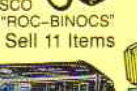
AT&T CORDLESS TELEPHONE
Sell 73 Items



HOUSEHOLD BATTERY CHARGER
Sell 12 Items



JEOPARDY GAME
Sell 13 Items



CARROM ACTION GAME BOARD
Sell 18 Items



LEAP FROG MINI SKATEBOARD
Sell 19 Items



GIRLS' AWATCH "SWITCH-EM" WATCH
Sell 18 Items



TASCO MICROSCOPE LAB
Sell 18 Items



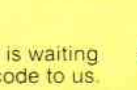
DELUXE UNO CARD GAME
Sell 8 Items



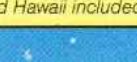
BMX "FREEWHEEL" BICYCLE
Sell 85 Items



SPALDING TENNIS SET
Sell 15 Items



BLACKSTONE MAGIC SHOW SET
Sell 12 Items



CBS RECORDS OR TAPES
Sell 8 Items



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Sell 18 Items



X-ACTO DELUXE KNIFE CHEST
Sell 12 Items



AT&T CORDLESS TELEPHONE
Sell 73 Items



HOUSEHOLD BATTERY CHARGER
Sell 12 Items



JEOPARDY GAME
Sell 13 Items



CARROM ACTION GAME BOARD
Sell 18 Items



LEAP FROG MINI SKATEBOARD
Sell 19 Items



GIRLS' AWATCH "SWITCH-EM" WATCH
Sell 18 Items



TASCO MICROSCOPE LAB
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Sell 8 Items



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Sell 85 Items



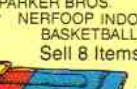
SPALDING TENNIS SET
Sell 15 Items



BLACKSTONE MAGIC SHOW SET
Sell 12 Items



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Sell 8 Items



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Sell 18 Items



X-ACTO DELUXE KNIFE CHEST
Sell 12 Items



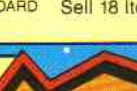
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Sell 18 Items



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Sell 8 Items



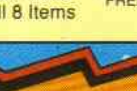
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Sell 85 Items



SPALDING TENNIS SET
Sell 15 Items



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ESTES ELECTRIC LAUNCH ROCKET KIT
Sell 18 Items



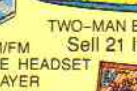
X-ACTO DELUXE KNIFE CHEST
Sell 12 Items



AT&T CORDLESS TELEPHONE
Sell 73 Items



HOUSEHOLD BATTERY CHARGER
Sell 12 Items



JEOPARDY GAME
Sell 13 Items



CARROM ACTION GAME BOARD
Sell 18 Items



LEAP FROG MINI SKATEBOARD
Sell 19 Items



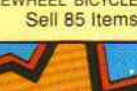
GIRLS' AWATCH "SWITCH-EM" WATCH
Sell 18 Items



TASCO MICROSCOPE LAB
Sell 18 Items



DELUXE UNO CARD GAME
Sell 8 Items



BMX "FREEWHEEL" BICYCLE
Sell 85 Items



SPALDING TENNIS SET
Sell 15 Items



BLACKSTONE MAGIC SHOW SET
Sell 12 Items



CBS RECORDS OR TAPES
Sell 8 Items



ESTES ELECTRIC LAUNCH ROCKET KIT
Sell 18 Items



X-ACTO DELUXE KNIFE CHEST
Sell 12 Items



AT&T CORDLESS TELEPHONE
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HOUSEHOLD BATTERY CHARGER
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GIRLS' AWATCH "SWITCH-EM" WATCH
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TASCO MICROSCOPE LAB
Sell 18 Items



DELUXE UNO CARD GAME
Sell 8 Items

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ASK FOR VAL...

She or another Captain "O" operator is waiting to rush your name, address and zip code to us.

* PLEASE...our operators can take name and address only. CANNOT answer questions. (Olympic's service is available in all 50 United States and Puerto Rico. Alaska and Hawaii included.)

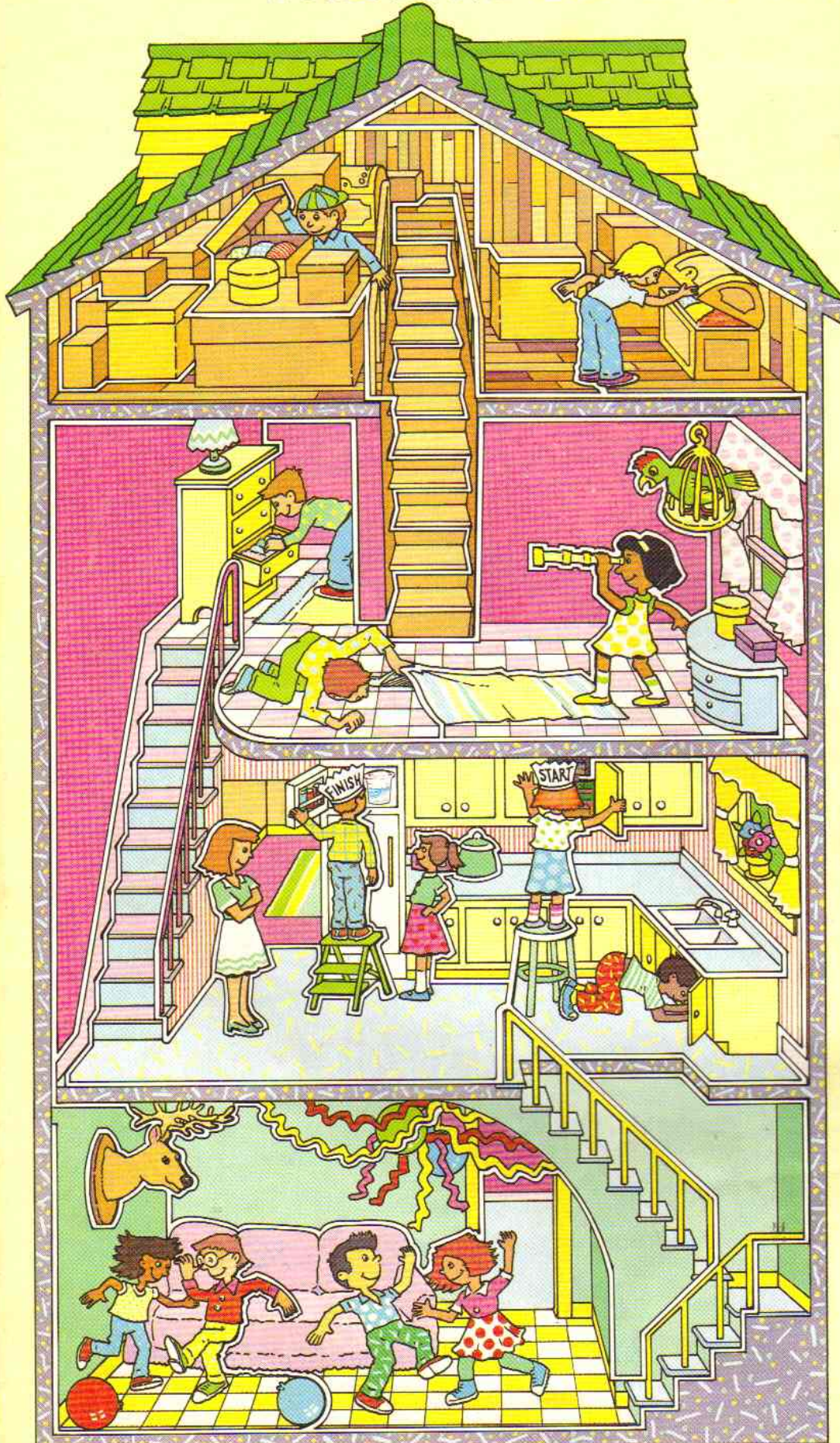
CALL CAPTAIN "O" OPERATOR TOLL FREE

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"THE A-MAZE-ING SNACK"



"Hey, guys," Willy tells his friends. "You should see the game my mom made up for us. It's a twisty, turning track that goes all over the house. Not only that, mom has some really *cool* new treats for us —if we finish the maze."

"What are we, mice?" complains Willy's friend Andrea. But then she finds out what the treat is—FruitSlush™, the new icy treat you freeze yourself.

"Okay!" she says. She doesn't mind tiring herself out now because she knows that afterwards she'll cool off with a great-tasting FruitSlush™!

The FruitSlush™ has been freezing overnight, and will be ready to mush and eat by the time Willy and his friends are done walking, running and stumbling their way through the maze. Can you help them get to the freezer? Begin at the "Start" sign and try to wind up at the "Finish" sign. Watch out for dead ends! And when you've put down your pencil, you might want to pick up a spoon and have a FruitSlush™!

Find FruitSlush™ next to Sunkist® Fun Fruits® Fruit Snacks.



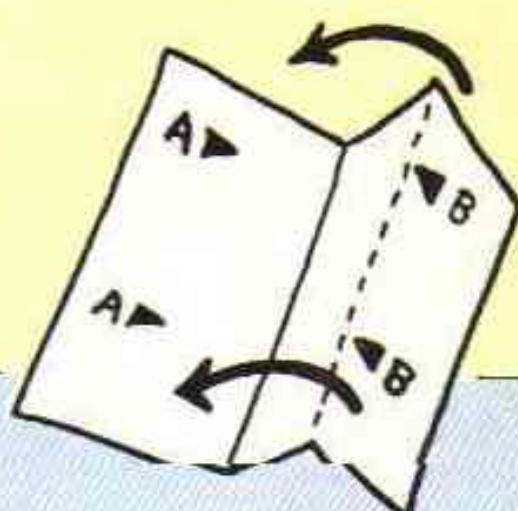
FruitSlush™ A ready to freeze fruit snack from Wylers®.

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Denti-crud
claims 100%
approval.

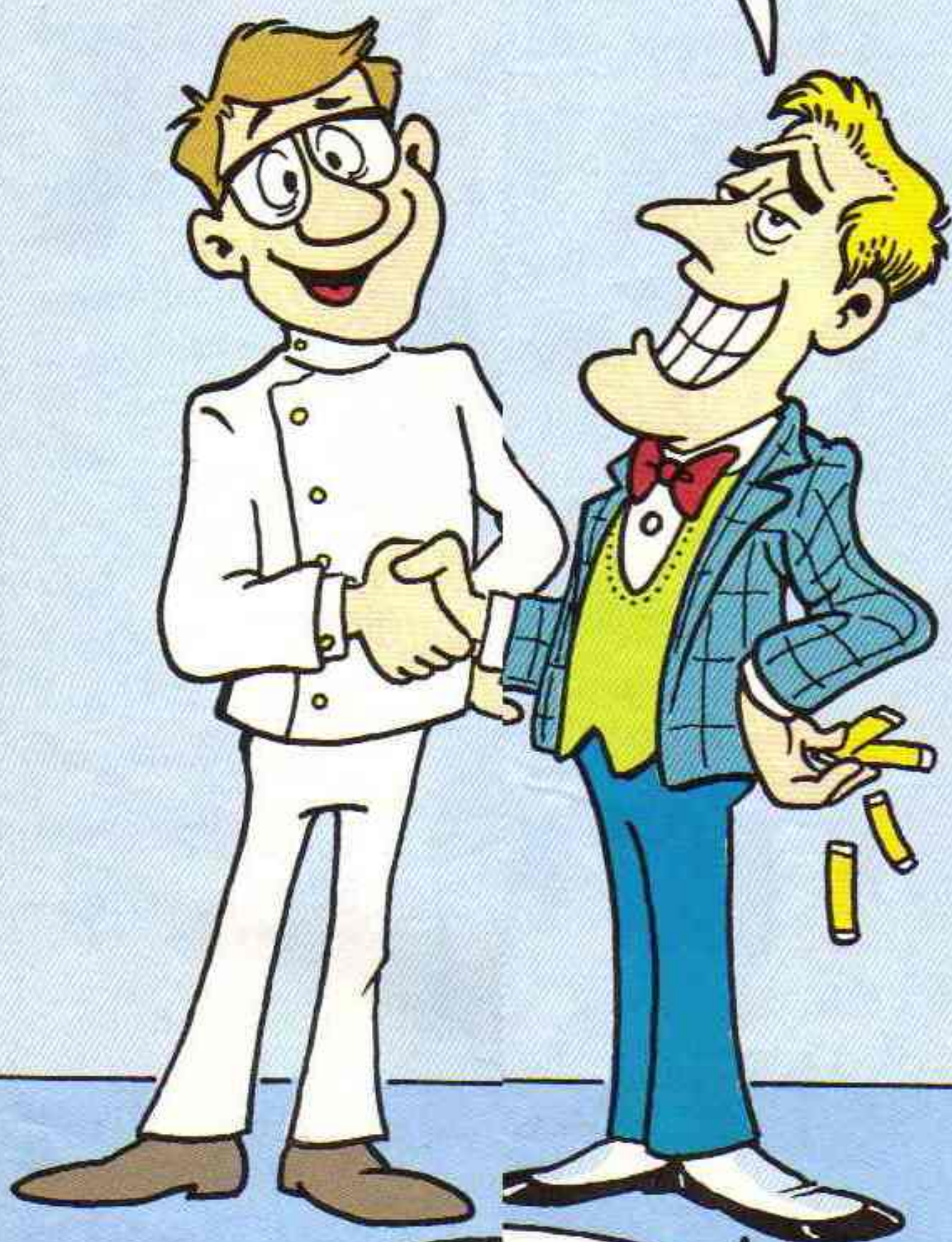
Fold in to find
out what's wrong
with this survey.

Fold in like this so that
'B' meets 'A'.



A ▶ ◀ B

ONLY
ASKED
ONE
DENTIST!



MINE!

A ▶ ◀ B